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No. 82.—October, 1838.

1.—*Report of a visit made to the supposed Coal Field at Bidjeegurh (Vijayagadha). By Mr. GEORGE OSBORNE, Sub. Dep. Opium Agent, Benares division.*

The existence of coal fields in the pergunna of *Bidjeegurh*, has from time to time been reported, by an individual of the name of *HYLAND*, who, from self-interested motives, long refused to disclose the locality, but at length announced by letter to Capt. *STEWART*, Fort Adjutant, at *Chunar*, his willingness to disclose the site of the mine, to any person that Government might be pleased to appoint for that purpose.

3. On the occasion of the visit of the Right Honorable the Governor General to *Chunar*, in November last, his Lordship was pleased to honor me with his commands to proceed to the *Bidjeegurh* pergunas, to examine and report upon the nature and extent of Mr. *HYLAND*'s discoveries.

4. In obedience to these instructions, I accordingly left *Chunar* on Monday morning the 27th of November last, and arrived at *Bidjeegurh* on the 1st of December.

5. In the 3rd para. of the letter to which reference has been already made, Mr. *HYLAND* states: "The place from which my specimens are supplied, is situated about 8 miles southeast of *Bidjeegurh* fort, and about half a mile east from an unfrequented pass called *Umlah Ghat*: it is there found in a stratum 3 feet thick, &c."

6. In his depositions before Mr. *WOODCOCK*, dated 23rd August, 1837, (*vide page 33*,) he further states: "I discovered good coal $3\frac{1}{2}$ miles southeast of the village of *Kodie* in the jungle, and I brought away

a handful : the vein of coal was 3 feet thick, 1 foot and $\frac{1}{2}$ from the surface, and running horizontally."

7. Accordingly, my first attention was directed to this locality, to which Mr. HYLAND undertook to conduct me. On the 2nd December, therefore, in company with him I descended the Umlah Ghat. On the 3rd Mr. HYLAND pointed out two spots, where, he *then* stated to me "*he had been informed*, that coal had been excavated, on some former occasion, but that he himself had never obtained ocular demonstration of its presence."

8. At the first of these two places, unpromising as it appeared, I commenced excavations, at a spot laid down from observed bearings. In the accompanying sketch it is marked F, and lies at the foot of a perpendicular precipice, over which in the rains a torrent is precipitated, and which in the course of time, has worn away the rock, so as fully to develop the stratification. At the base of this fall, is seen a vein of what I consider to be hard flinty shale, which I find to possess a specific gravity of from 2.33 to 2.547, and of which a brief examination is given below.

9. The width of this fall is about 100 feet, and its height about 80, of which 60 feet, or perhaps more, from the top, are strata of sandstone ; then comes the vein of shale, running in nearly a horizontal direction southeast by south, and varying in thickness from 12 to 14 feet : the exposed surface appears to be a hard shale or flinty slate. I penetrated, for 8 or 10 feet below the mass, at right angles to its direction or strike, and arrived at a hard sandstone. I then sunk a vertical shaft but was stopped by a similar rock, about 3 feet below the surface. The opening of a small cave presenting itself on the left extremity, I had it enlarged, hoping by this means to penetrate to the rear of the vein, the cave was not more than 18 inches in height, and appeared to run nearly horizontally. I was in hopes that the north side of the cave would have afforded encouraging indications, but was disappointed, meeting only with the same indurated slate-stone.

10. About 1000 or 1200 yards southeast of this spot, appears another bed of shale, or rather perhaps another portion of the same bed, at the base of the rock forming the bank of the adjoining nullah at G ; a similar vein is also developed at H.

11. The nullah at G runs through the formation, which appears at intervals on the abrupt face of the banks of the nullah on either side. About G the formation is exposed for about 14 feet in perpendicular height ; it is composed of thin alternate undulating strata of a flinty slate and a species of indurated clay of about half an inch to 2 inches in thickness ; it is harder as it approaches the bottom of the

nullah, where it seems to pass into a hard bluish-black sandstone ; it is there exceedingly hard, requiring several smart blows with the hammer before a fracture can be effected. The formation about the bed of the nullah is singular ; it is composed of a quartzose rock, or a saccharoid quartz, in distinct granular concretions, emerging at angles varying from $13\frac{1}{2}^{\circ}$ to 35° , but dipping south upon the northern side of the nullah, and dipping north, from the other side, at angles varying from $31\frac{1}{4}^{\circ}$ to $46\frac{1}{2}^{\circ}$.

12. The bed of the nullah is composed of rolled boulders of flinty slate, passing into a very hard sandstone. The strata of shale are nearly horizontal, gently undulating, and as they disappear from one bank of the nullah, they reappear at no great distance upon the opposite side, thus alternately appearing and disappearing throughout the whole length of the nullah. The same general formation holds good, wherever I have here examined. The vein appears as if crushed by the vast super-imposed weight of sandstone, which here towers up to about 6 or 700 feet.

13. The inclined strata of quartzose rock, as shewn above, in many cases, run obliquely across the bed of the nullah, presenting a semi-cylindrical appearance, and almost appear as if constructed for a centering, on which a tunnel was to be supported : the strata are concentric, and from three to six inches in thickness,—the formation is hard, heavy, bluish-black, mixed with shades of red, and appears to be the connecting link between sandstone and flinty slate.

14. All the specimens of shale obtained here, were anxiously assayed by the blow-pipe ; they are easily heated to redness, but do not appear to contain any combustible matter in their composition ; with alkalies, they fuse into a slightly green glass, denoting the presence of siliceous matter, or oxide of iron.

15. Mr. HYLAND next directed my attention to a spot marked A in the sketch.

16. On commencing my examination here, I first proceeded to the point B, an absolute precipice, of about 120 feet in depth by about 150 to 200 feet in breadth : over this in the rainy season, a torrent of some magnitude is precipitated. The nullahs H F and G are themselves mountain-torrents ; they all however meet at B, and after a heavy and continued shower, must fall with grand effect into the chasm below.

17. At this season of the year (December) the channel was nearly dry ; the stratification was consequently fully developed. Below the fall is a stratum of hard shaly matter, exactly resembling that at F. This

vein, also, is nearly horizontal, and to be penetrated only by great labour. Blasting might be had recourse to, but for the tottering and overhanging masses above. This operation however, would require much more time than was at my command.

18. The bed of the nullah is composed of enormous masses, precipitated in the course of ages, from the summits of the eminences on each side of the nullah. Some of the blocks contain possibly 1000 cubic feet or more, the interstices are filled with boulders to an unknown depth. The ridge B, A, C, runs southwest by west, the highest point being at c; the strata are nearly horizontal, and dip to the northwest, at an angle varying from 3° to 13° ; the point c I estimate at 400 feet above the bed of the nullah, of which 60 or 70 feet from the top is an absolute precipice; thence to the nullah the slope is at an angle of about 5° , and covered with jungle of the most dense description. The width of the ridge from c to D probably exceeds 800 yards. I followed the course of the nullah to F, where I found limestone dipping southwest at an angle of $14^{\circ} 20'$, and returned to camp by a difficult pass at D, through the thickest grass and bamboo jungle I ever beheld. A tiger sprung on one of my attendants near this spot, but the man was rescued.

19. I next commenced a close examination of the point A, which, however unlike the description, is the spot to which Mr. HYLAND alludes in his deposition (page 37, Quest. 15) where, he says, when asked what obstacles he met with, they were "Large stones and earth which appeared to cover the spot. I did not dig and therefore cannot tell what quantity, as I did not see the size of the stones clearly." The first glance, was sufficient to convince me that no human agency had deposited the massive rocks, in the position I found them; added to which bamboos, and varieties of forest trees, the growth of years, had firmly rooted themselves in the soil. A colony of wild bees had also established themselves immediately above the spot; their dislodgement proved troublesome and caused some delay.

20. On the 6th December, I ascended to the precipitous crag, about 150 feet or more above the bed of the nullah, and commenced a careful examination of this spot. I here found shale in veins of about a foot in thickness, alternating with sandstone. I penetrated some little way into the veins, but from their hardness and position, made but small progress; the exposed part of the strata presenting the same vertical plane, it was necessary to undermine the shale by removing the stratum immediately below, and this, being a very hard sandstone, was a matter of some difficulty.

21. In this vicinity, I observed two or three small exudations of petroleum. This was so far encouraging, for Professor JAMESON observes, "it generally flows from rocks of the coal formation, and usually from the immediate vicinity of beds of coal, &c." The surfaces of projecting rocks below the springs are slightly coated with it, where, from long exposure to the sun, it has become completely hard, but without losing its characteristic smell.

22. On the 7th December, I continued the excavations on the face of the rock; dug down deeper and laid bare the original formation. The whole of the space within the dotted line from *a* to *b* was now laid bare, exhibiting only alternate strata of sandstone and shale. Into one vein marked *B*, I penetrated as far as the workmen could well act; the roof of this vein was formed of a singular conglomerate of from three to six inches in thickness: *c* is a vein of slate, which might answer for roofing slate, as some of the lamina I broke out, were nearly two feet in length.

23. Small plates of talc were separated from between the lamina of slate, and some few on being split presented an appearance, as if they had been covered with a coarse gold leaf.

24. The space from *a* to *b* is what Mr. HYLAND imagines has been artificially closed, and that it covered the entrance to a coal mine; I had in consequence, every particle of soil (which in my opinion is the gradual accumulation of vegetable decomposition, mixed with earthy particles fallen from the summit), removed to a depth of ten feet or more, until I was stopped by the original sandstone rock at *D*.

25. I consider it to be a mere waste of time and money, to dig deeper in that direction, and I am strengthened in this opinion from examination of the formation about the fall. At *B*, between three and 400 yards north of the present excavations, and about 150 feet below there exists nothing but hard flinty slate alternating with sandstone.

26. The veins of slate were traced along the surface of the rock for about 100, or even 150 feet, without the slightest difference in the general formation: several masses of a tubaceous limestone were excavated, containing imbedded fragments of slate, and (*apparently*) traces of bones. I also found the bones of a human being, about 3 feet below the surface, but judging from their appearance they had lain there for a century.

27. The above described excavations were made, entirely upon the statements of Mr. HYLAND; he has failed in pointing out a spot, even answering to the description given at pages 30 and 33 of his deposition.

It is not possible to precipitate a *mass of rock* from the summit, so as to remain on the spot marked *a*, at page 11; the ledge there is barely broad enough for two men to pass abreast—in many places not for one man to find sure footing.

28. I have now carefully examined the locality pointed out by Mr. HYLAND: (*vide sketch*.) The strata from *A* to *B* may be called a longitudinal section, laid bare to the fall at *B*; it runs, doubtless underground to *I*; is exposed on alternate sides of the nullah to *G*, runs underground to *F*, where a transverse section is exposed: an oblique section is again seen at *H*. An imaginary horizontal section of these parts, I estimate at about 600, or perhaps 700 feet below the summit of the circumjacent crags, *L* and *M*, &c.

29. At *K*, page 4, is seen the mine of *Kusis*, (crude sulphate of iron,) containing about 39 per cent. of the dry salt: (*vide analysis, page 41*.) The vein follows the curve at the bottom of the precipice, about 200 feet from the summit. I had not sufficient leisure to examine the extent of the mine, but from general description, I learn the mineral may be obtained in almost any quantity. It appears in the state of a fine white efflorescence, commingled with the slaty matter of the matrix.

30. Mr. HYLAND having thus failed in pointing out a deposit of coal, or even the existence of the mineral, I did not consider myself justified in remaining longer, especially, as one out of my three weeks had thus expired, and so very unprofitably. I therefore left on the 9th December, ascended the narrow and difficult pass at *M*, impracticable for beasts of burden, and reached *Bidjeegurh* in the evening. Mr. HYLAND however determined to remain behind at the late scene of operations, with the view of regaining the entrance of some supposed hidden mine. Mr. H. has distinctly acknowledged to me, that he *does not know* whence the specimens of coal he exhibited were obtained; he merely *supposed* them to have been dug out from the spot lately examined by me: *there* I have determined, it does not exist: he has moreover confessed to me, on two several occasions, and in direct opposition to the 4th para. of his letter at page 31, that he had never seen coal excavated from the *Ghaggir* nudee.

31. On Monday the 11th December, I marked out a spot in the *Samdha* nullah, below the, now deserted, fortress of *Bidjeegurh*, erected a bund, drained the enclosure and proceeded to denude a portion of the bank, and expose the formation of "bituminous marle slate," which I find abounds in all parts of the valley of the *Ghaggir* and *Samdha*, and of which, my present locality was selected as a fair example of the whole.

Fig 1



Fig 2

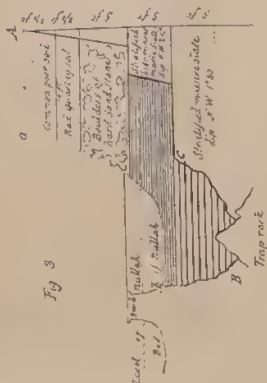
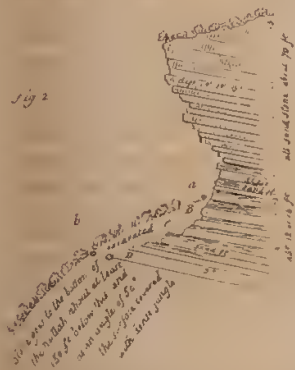
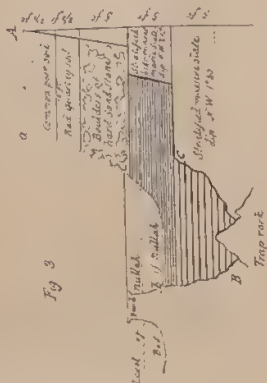


Fig 3



32. I here prosecuted my researches until the evening of the 15th. I penetrated to some depth below the bed of the nullah, and came to what I am inclined to consider a primitive rock, without meeting with the slightest indication of coal. The following sketch shews the result of my labours. The dotted line *a, b*, is the outline of the face of the nullah; the strong line *A C B*, is the sectional line of the part removed, exposing the strata as they occur.

33. The rock which I found protruding at *B*, was so excessively hard, that fragments were with great difficulty excavated; the tools from the *Chunar* magazine were broken; the common native implements were fractured at once; the rock exhibits numerous threads of iron, a specimen marked, I have the honor to forward. By analysis I find it contains about 35 per cent. of iron (*vide page 44*); the want, however of a platinum crucible, alone, prevented my attempting a more decisive analysis.

34. The recent fracture of the massive slate had a greenish-black appearance; it was slaty, splintering with a glistening lustre; when the slate was drier, it was more of an Indigo-black. The upper surface of the strata at *c*, was perfectly smooth, the line of separation between that and the bituminous marle slate beautifully distinct: the strata run northwest, dipping in that direction at $1^{\circ} 40'$.

35. I had not leisure to ascertain the depth to which this interesting formation descended: the large metalliferous mass before mentioned was enclosed, or enveloped, in the strata, the form very irregular, and the cavities formed by its protuberancies were filled up with smaller slaty fragments, some in a pulverized state, united into a tolerably compact mass by water—which arose almost faster than it could be baled out.

36. The bituminous marle slate, super-imposed upon the massive slate, follows the same order of formation; the divisions of the strata are not at right angles with the plane of the horizon, but recline at an angle of $20\frac{1}{2}^{\circ}$; they are separable with the greatest ease, and with care might be taken up in layers; they all dip to the northwest at an angle of $2\frac{1}{2}^{\circ}$: these seams are crossed by others at an angle of $37\frac{1}{2}^{\circ}$.

37. This bituminous marle slate is to be seen, cropping out from the banks, in a very great number of places along the *Samdha* and *Ghaggir* nullahs, but not a vestige of coal. My own observations, therefore, coupled with the corroborative statements of many residents of this neighbourhood, lead me to the conclusion, that coal has never yet been found in the bed of the *Ghaggir*, or of its tributary rivulets. I, however, began to trace the channel towards its confluence with the

Soane, and the annexed is a general section of the hills of my then locality; the heights are merely estimated, not having an opportunity of measuring them; the scenery of the back-ground is also sketched in, shewing the position of the fortress of *Bidjeegurh*.

38. At *a* is a section of the *Ghaggir*; there it is deep, its waters being stopped by a solid bund of masonry, on which is erected a handsome bridge of ten arches, now in good repair. By a Hindee inscription it appears to have been constructed in 1829 Sumbut, (1771 A. D.) by BULWUNT SINGH DEO. The *Ghaggir*, in its course to *b*, is precipitated over two falls, the last of which is of some magnitude; the point *b* is at the junction of the *Samdha* and *Ghaggir* nullahs, where the strata of sandstone and shale, are confusedly and violently contorted.

39. On Monday the 18th December, I reached the *Soane* by a pass, known as the *Ek Poway Ghat*. On the route I passed over an extensive formation of what, from its geological position, I consider to be mountain limestone. It is of various colors and the lighter description, will, as I have already ascertained, answer for the purposes of lithography*.

40. Other varieties become black on exposure to the atmosphere, the specimen, marked D, appears capable of receiving a good polish; in this case, it will answer all the purposes—in fact, it is a black marble. I had not leisure to ascertain the extent of this interesting formation; from native report however it is by no means limited; its general dip is north, and northwest, and it is well developed in the bed and banks of the nullah near *Markoundeh*.

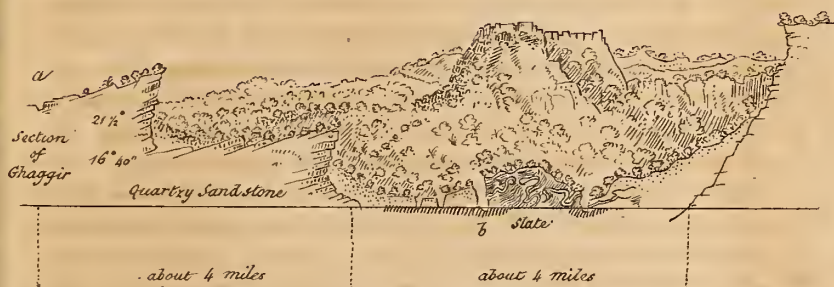
41. About a mile south of this village it is covered by soil, or only occasionally seen; it is seen again on the banks of the *Soane*, and there reposing, upon Greywacke: this formation I traced for 3 miles along the banks of the river, east of my encampment near the confluence of the *Ghaggir* with the *Soane*.

42. On the right bank of this river, I also found limestone in regular strata protruding from the banks, and whilst examining this formation, I accidentally picked up a single specimen of a bituminous coal.

43. Not to enter into a minute detail of my labours, it will, I trust, suffice, to say, that for four days, I narrowly scrutinized the banks of the *Soane*, the bed and banks of the *Rehr* nullah for about 3 miles, the *Bijul* for about 10 miles, and the *Nowah* nudee, for about 3 miles: from the last three, I did not obtain a single specimen of coal, whilst from the bed of the *Soane* I collected about 30 or 40 specimens of

* See specimen C.

1



2





various sizes, the aggregate weight of which did not exceed one pound: this I considered as conclusive evidence of the specimens having been washed down, only by the waters of the *Soane*.

44. Nearly a month had now elapsed: I was in consequence, reluctantly compelled to return to *Chunar*, with the intention of applying to the *Benares* opium agent, for extension of leave for another fortnight, in order to prosecute the clue I had just obtained. Before however leaving this part of the country, I caused to be notified to all classes of inhabitants the object of my search, offering at the same time a reward of Rs. 200 to any individual who would engage to point out a coal deposit in the pergunna, and had the satisfaction of seeing them readily interest themselves in the search. I then returned to *Chunar* on Friday the 29th December, 1837.

45. As already stated in the 7th para. of my letter, I readily obtained an extension of leave for a fortnight, and arrived at the *Soane*, as stated in the 8th and 9 paragraphs, on the 29th January, 1838.

46. I commenced a minute search along the bed of the *Soane*, and also upon its banks, from the former I collected a number of small specimens of coal, all however, much to my mortification bearing evident traces of having been washed from a considerable distance. I continued to progress westerly, and passed over a second formation of black mountain limestone, dipping westerly. This I traced for some distance up the *Chutwar* nullah, without meeting any encouraging indication: on the contrary, I found the primitive clay slate protruding on the highest parts of the adjacent hills: in other parts I found it alternating with limestone.

47. The nature of my search had by this time become familiar with the natives of the country; the offer of a pecuniary reward had the effect of inducing them to exert themselves in the search: they all agreed in the opinion, that the specimens I had obtained were washed from a deposit, situated near the source of the *Soane*; this would bring the locality in about the same parallel of latitude with the coal fields of *Palamow* and *Sirguja*, as described by Captains FRANKLIN and SAGE, in the "*Gleanings of Science*" for July 1830—consequently, I presume that, were the fact of a coal deposit established in that locality, the same causes that have prevented the *Palamow* mines from being worked, would also operate here, and on account of its distance from the Ganges at *Chunar* and *Mirzapore*, in a still greater degree, so as utterly to preclude all idea of the same being brought to advantageous account.

48. The specimens of coal, which I collected during my last search, amount in the aggregate to about 16 pounds; they were found lying on the sands of the *Soane*, between *Silpee* and *Burdee*, a distance of more than 30 miles; the fragments vary in weight, from a few grains to pieces of three or four ounces, and they all present the appearance of having been washed from a distance: those marked E, were collected in my last examination.

49. My time having now once more expired, I was most reluctantly compelled to relinquish all further inquiry; before, however, returning to *Chunar*, I dispatched by a sure conveyance, copies of the offer of reward to *Burdee*, and the principal villages in that direction on the *Soane*; and if a coal formation does exist in any part of the country thus lately examined, I feel assured that it will not be long before its discovery is reported to the authorities at *Mirzapore*.

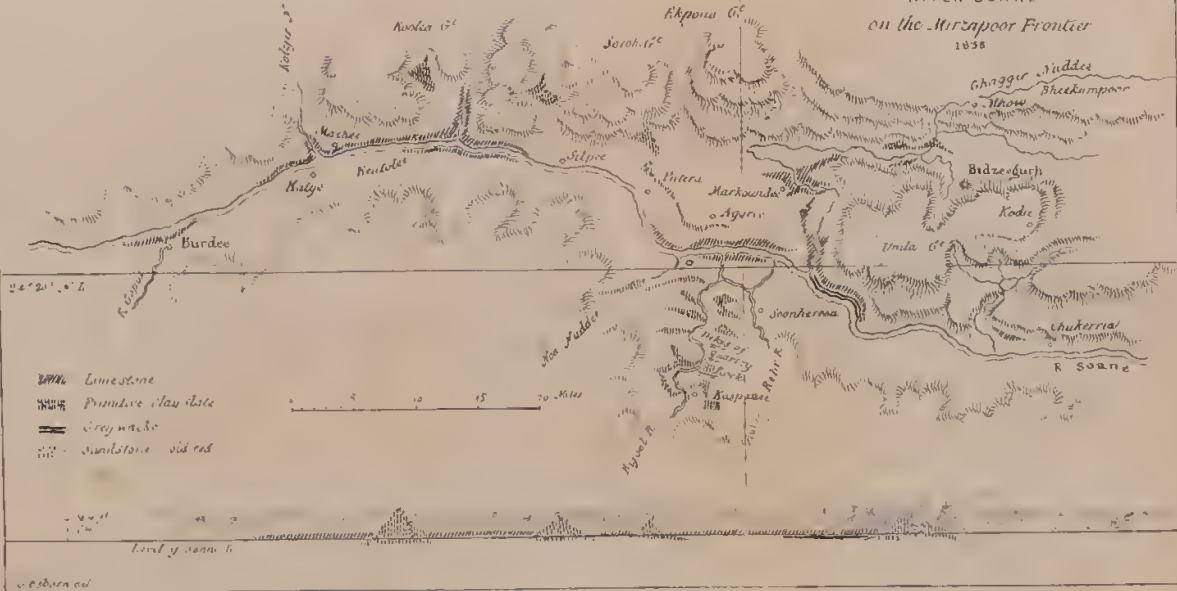
50. In conclusion, I beg leave to apologize for all defects which on perusal may be found in the preceding report: the attempts at geological inferences, are given with the utmost possible deference. In this branch of science I have had but little experience—in fact it is with much hesitation I have ventured at all on the subject. On second thoughts, however, I deemed it best, even at the risk of error, to give the facts just as they were impressed on my mind, and in so doing I trust I may not have materially erred. My important opium duties have left me but little leisure, even supposing I possessed the ability—to prepare an elaborate report: the foregoing is consequently written in great haste, and hence I more readily venture to hope, that all imperfections may meet with the most indulgent consideration.

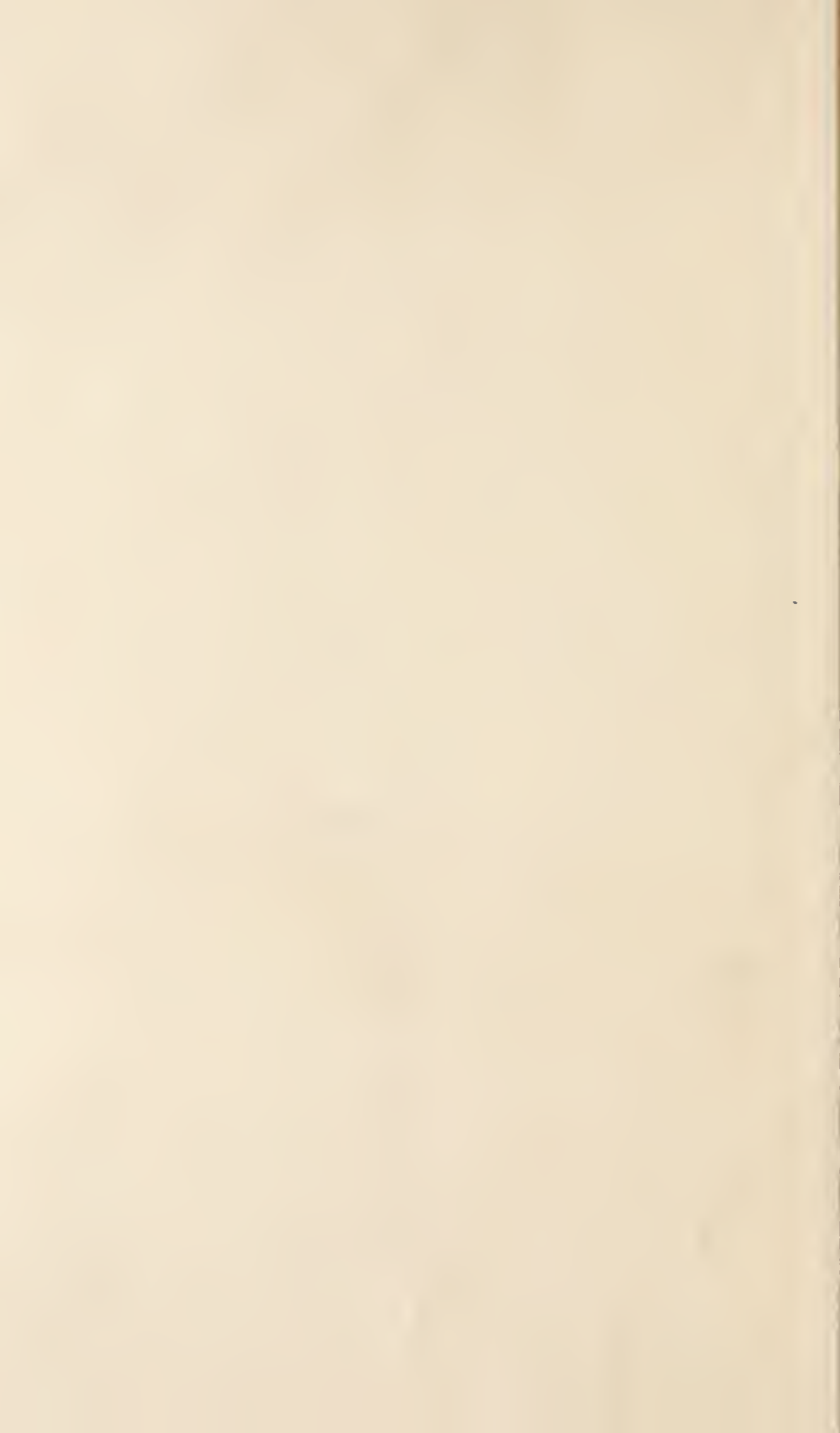
II.—Report on ten specimens of Coal from Captain BURNES.

Although on a general inspection of the specimens contained in Captain BURNES's despatch, some disappointment is felt at not finding any, which may be at once pronounced to be ordinary working coal, such as occurs in abundance in England, and is obtained in *Burdwan*, *Assam*, and other parts of India, still there is enough among them to encourage hopes, of finding coal in profitable beds in the vicinity of the *Indus*, when more carefully explored.

Four of the specimens are in fact of the very purest form of mineral coal,—that in which all vegetable appearance is lost, and a semi-crystalline homogeneous structure supervenes, the result apparently of fusion under heavy pressure and confinement.

SKETCH
of the
RIVER SOANE
on the Mirzapoor Frontier
1838





This *jet*, or pitch coal, were it found in sufficient quantities, would not only answer well as a fuel, but would be superior to all other coals for the particular object of getting up steam, on account of the large proportion of inflammable gas it disengages under combustion.

Of this description are Nos. 1, 2 and 3 from the neighbourhood of *Kalabagh*, and No. 10 from the northwest of *Dera Ismael Khan*. Captain BURNES says that the former "was found in abundance"—and that the latter "should it prove a good coal, will be invaluable,—being in the neighbourhood of the *Indus*, and in a country where the poverty of the people will make them rejoice to discover any means of improving their condition."

Of the excellence of the coal there can be no doubt; there is I fear less certainty of its abundance. It occurs in very thin seams, which will not pay for the working if they lie in a hard rock, but if seams even of a few feet thickness are met with, Captain BURNES's anticipations will be amply fulfilled. The pitch coal of *Mergui* which closely assimilates in chemical composition with the *Indus jet*, is stated by Dr. HELFER to lie in a bed six feet thick, whereas the other is barely an inch thick, and the veins, and natural cleavages, are every where filled up with calcareous spar.

No. 5, the bituminous shale of *Cohát*, was examined by me in 1833; it is not at all adapted for burning in steamers, though, from the quantity of gaseous matter expelled, it might be turned to account, in default of better fuel, on shore. The same remark will apply with more force to No. 7, a bituminous limestone, in which the slaty structure is not perceptible.

The existence of large rocky formations, so strongly impregnated with naphtha and bitumen, is indeed evidence of the proximity of coal beds, from which, by the action of volcanic heat, we may suppose the volatile matter to be forced into the porous superincumbent strata. In *Assam*, where so many beds of rich lignite and pitch coal, not differing in composition from the jet of *Kalabagh*, have been lately found, springs of naphtha are common, and were known long previous to the discovery of the coal.

To a similar origin may be traced the bituminous exudations from rocks in the *Panjáb* and *Cabul*, of which we have examples in No. 6 and No. 8. The former of these may be called a bituminous brine, for it contains a large proportion of common salt, attributable doubtless to the rock-salt deposits of the same range of hills.

Another bituminous exudation from near *Ghazni*, given to me by

SHEKH KERA'MAT ALI, and called *mumia*, was found by Mr. PRIDINGTON to contain nitrous salts, sulphur, and bitumen.

Of a similar nature may be the combustible No. 8, from the north of *Cabul*, but I have as yet only examined it as a combustible.

I now proceed to the detailed examination of each specimen, adding, for convenience, the remarks of Captain BURNES, as to their locality. I have also placed at the foot of the list the muster lately received from Captain WADE, Political Agent at *Loodiana*. I have deposited a small fragment of each kind, in sealed bottles, in the Asiatic Society's museum, for preservation.

J. PRINSEP, *Assay Master*.

Specimen 1.—"From *Shakandara* near *Kalabagh*, about 15 miles from the *Indus* found in abundance half way up a hill two miles north of the village."

A fine jet or pitch coal: of a glossy velvet black color; does not soil; may be cut and worked; fracture conchoidal and vitreous:—has a slight asphaltic smell. The fragments coated with an earthy matter easily washed off. Specific gravity 1.166; burns with rich flame and copious scintillations. Composition as a fuel—

Volatile matter,.....	50.9
Carbon or coke,.....	47.5
Earthy residue,.....	1.6
	<hr/>
	100.0

Specimen 2.—"From another locality of the *Shakandara* deposit, at the base of the hill among sandstone."

This is precisely the same jet as above described, but many of the small fragments have the sandy matrix adhering, hence on an average specimen *uncleaned* the result was: specific gravity 1.454.

Composition—Volatile matter,	34.3
Carbon,	18.7
Earthy matter,.....	47.0
	<hr/>
	100.0

Specimen 3.—"Coal of *Kalabagh*, found three miles south of *Shakandara*, and nearer *Kalabagh*, in a fissure of the rock, to be seen in three different places off the high road."—B.

This is more of a coal (or rather lignite) than either of the preceding. It shews the woody fibre, and the alternation of glistening

bituminous, with dull carbonaceous seams. It burns with much scintillation, and poor flame:—specific gravity 1.470 to 1.556?

Composition—Volatile matter,..... 42.8
(of which water 7.6)

Carbon,..... 47.6

Earthy residue, ferruginous, 9.6

100.0

Specimen 4.—"Coal of *Mukud*. The locality of this specimen is not well authenticated. The three preceding were dug out, but this was brought in, as was said, from *Mukud*."

Highly vitreous jet, of a more resplendent velvet gloss than the foregoing. Seam of carbonate of lime adhering to one corner: burns with richer flame, and slight sparkling:—water given off on sandbath only 2.7 per cent.:—specific gravity 1.122, being the lightest of the series, and approaching closely to pure asphaltum, but it does not fuse, when heated, before ignition, nor is it readily, if at all, soluble in naphtha, even when boiling.

Composition—Volatile matter, 63.6

Carbon,..... 32.8

Earthy matter, ferruginous, 3.6

100.0

Specimen 5.—"Kohát coal, similar to that sent down in 1833; locality *Lachee, Kurpa, Jutta* and *Ismael Khyl*."—B.

Dull earthy bituminous shale, burns with good flame, and leaves slaty ash. Specific gravity 1.619. The specimen analyzed in 1833 (see Journ. As. Soc. vol. II.) had a somewhat higher weight, 1.670. I place the two results side by side.

	1833 Specimen.		8838 Specimen.
Volatile matter,.....	37.0	.....	3.04
Carbon,.....	6.2	.....	14.9
Earthy matter,	56.8	.....	54.7
	<hr/>		<hr/>
	100.0		100.0

Specimen 6.—"Coal of *Soorkh-áb*, 15 miles S. S. E. of the city of *Kabul*, near *Moosye*. It is called '*Khur*' by the learned: there are two kinds as may be seen by the specimens. There are copper mines near it."—B.

This is a curious substance—a saline earth resembling wacken in appearance, strongly impregnated with bitumen, or mineral oil; of a strong smell, saline taste, and deliquescent from the salt it contains—whence probably its name of '*khur*' (*kshára salt*). It has a specific gravity 1.851—and burns with a good flame.

Composition (in the dry way)—

Volatile matter,	27.3
Carbon,	16.9
Earthy matter, partly calcareous, and salt,	55.8

100.0

(I have not yet analyzed this as to its saline contents.)

Specimen 7.—"Coal from *Nour*, 10 miles north of the ancient city of *Ghazni*. The specific gravity is higher than that of all the foregoing."—B.

This is a bituminous limestone, smelling of naphthia when rubbed or freshly broken—leaves a mark on paper, and burns with a poor flame, when well heated. Specific gravity 2.056. Analysed in the ordinary manner it gives off—

Volatile matter,	12.9
Carbon,	32.2
Earthy matter chiefly calcareous,	54.9

100.0

As, in driving off the volatile matter, or incinerating the carbonaceous, it is evident that some, if not all, of the carbonic acid would be disengaged from the lime, I repeated the trial, but with results nearly the same. The earthy residue 54.9 digested in weak nitric acid, left but 1.5 undissolved: the 53.4—(or in the second experiment 50.5) of lime, would require 41.0 or 39.0 of carbonic acid for its neutralization, or more than the carbon and bitumen together! We can only suppose therefore, that the presence of the bitumen had prevented the absorption of carbonic acid, or supplied its place—a fact it will be worth while to ascertain, when I can get another, and a larger specimen.

Specimen 8.—"From *Nujrow* to the north of *Kabul*. This is a combustible, but not coal, though it may be found to indicate it."—B.

This substance resembles No. 6 in some respects, but it is softer, has a more disagreeable smell, and does not appear to contain salt; it is adhesive, yields to the nail, of dull earthy brown color, specific gravity 2.031; it burns with a clear flame not very bright.

Composition—Volatile matter,.....	26.1
Carbon,.....	10.5
Earthy matter, principally silicious,	63.4
	<hr/>
	100.0

A further supply of this curious matter for a more rigid examination, and information as to, manner in which it occurs, would be desirable.

Specimen 9.—"Coal of *Jamoo* in the *Panjáb*: this was brought to me from *Umritsir*, and if it proves good, the locality of it, as being close to the *Chenáb*, will be nearly as valuable, as if found on the *Indus*."—B.

The specimen of this coal is so minute, that I can hardly put confidence in the trial made on it in my laboratory. It would appear to be a real *anthracite*, having the metallic lustre, and marking paper something like graphite; texture fibrous; smooth: burns with a trifling flame. Specific gravity 1.650.

Composition—Volatile matter,.....	8.8
Carbon,	57.2
Ferruginous earth,.....	34.0
	<hr/>
	100.0

This coal would be quite unfit for steam purposes, but if there be beds of anthracite on the *Chenáb*, this material may be turned to very good account in the smelting of iron, now that the application of the hot blast has been introduced. It seems that one part of the anthracite coal of *Wales* produces four times the effect of the best coal formerly used.

Specimen 10.—(Forwarded 8th March.)

"The locality of this deposit is between *Tak* and *Kaneegorum*, northwest of *Dera Ismael Khan* in the country of the *Masood Wazirís*. It is found one and a half coss east of the small village of *Luagarkhyl* under the *Mulik Buda*. The seam has been laid bare by a water-course, and may be traced up hill, it is said, for 100 guj (112 yards)—dividing, as it ascends, into two parts, and having stones impregnated with iron on both sides. The exposed part of the vein is narrow."—B.

This is the most promising of all the specimens:—in quality it agrees with Nos. 1, 2 and 3, being a rich jet, or pitch coal. The division of the fragments, is generally rhomboidal, and a thin coating of crystalline veins, which pervade the crevices, conceals the splendour

of the polish, but it is developed by a little acid, or washing. Some fragments have a flat striated structure like lignite; these are less bright in color, and heavier; they burn with copious flame, and some emission of sparks. The water given out on the sandheat, is 3.5 in the first and 5.4 in the second sort.

Specific gravity No. 1,		of No. 2	
	1.227		1.481
Composition—Volatile matter,	49.1	.....	48.6
Carbon,.....	48.5	.....	45.3
Earthy matter, ferruginous,..	2.4	.....	6.1
	<hr/> 100.0		<hr/> 100.0

Specimen 11.—Stated in the letter accompanying it to have been “found in the *Mandi* hills north of the *Sutlej*, by Captain WADE, Political Agent at *Loodiana*.”

The tin box, on arrival, was found to contain fragments of coal, and some large nodules of iron pyrites, the hardness of which had shattered most of the coal to atoms on its way down. Some pieces, however, were picked out, which had a very promising appearance, more resembling the *Burdwan* coal than any of the above. Some pieces, however, were attached to black silicified, or fossil, wood, which at first sight might be mistaken for excellent coal. It had a sulphurous smell from the pyrites, and from the analysis I fear it is much adulterated with this mineral. From its aqueous contents, 7.8 per cent., it scintillates a good deal in burning, and the flame is peculiarly coloured from the presence of metals.

The specific gravity is 1.580 and the composition of a selected piece,

Volatile matter,.....	48.1
Carbon,.....	39.3
Ferruginous residue from the pyrites?.....	12.6
	<hr/> 100.0

More information will be desirable regarding this *Sutlej* coal, which promises to be a valuable addition to our now extended catalogue of Indian coal deposits: but its locality at *Mandi*, is too far from the limits of navigation, to allow of its being brought practically into use.

J. PRINSEP, *Assay Master*.

III.—*Note on the Animal productions of the Tenasserim Provinces ; read at the meeting of the 10th October, 1838. By J. W. HELFER, Esq. M. D.*

Eighteen months have elapsed, since I last had the honor to address personally the Society. Since that time, I have wandered over many hundreds of miles, never trodden by Europeans, in countries left to the unbounded operations of nature, in a latitude, which produces all that is created, and, of the vegetable world, mostly in perfection and exuberance, and in tracts, where, in the recesses of the interior wilds, many productions await yet the ardour of naturalists, to bring them forth to everlasting knowledge.

Having to-day the honor to submit the ornithological part of my collections to the Society's inspection, I avail myself of the opportunity, to take a cursory view of the animal productions of the Tenasserim Provinces ; and as man occupies the highest rank in that series, I may be allowed to begin with the different races inhabiting these regions—speaking of man however, only as a naturalist, who describes the habits and manners of the human species, and considering the varieties of it in the different nations and tribes, and the striking peculiarities that are found, with reference to the geographical distribution of each.

The inhabitants may be subdivided into the Burmese, the Siamese, and the Kareans. All three belong, generally speaking, to the Mongolian race, but are so changed, and specifically distinguished, that they form separate races.

The Siamese approach nearest to the Chinese, possessing a flat forehead, a small nose, prominent cheek-bones, black hair, very thin beards, small oblique eyes, thick lips, and a colour more or less yellow. The Burmese are half Malays half Chinese ; the Kareans half Malays half Caucasian, indeed the features of the latter approach so much the Caucasian form, that many of them have even aquiline noses, a high forehead, and the European facial angle. Consequently the idea, latterly followed up by the American Baptist Missionaries with great zeal, sometimes with ridiculous obstinacy, namely, that they are the true lost tribes of the Jews, merits, as far as regards their physiognomy at least, an excuse.

The Kareans are in civilisation the lowest of the inhabitants, and exhibit an anomaly, which is perhaps no where else found. They are an agricultural people without any fixed habitations, but migrating every second or third year ; and so great is their innate love of the

primitive forests, that they hate their own industry, are disgusted with cleared land, pity men who are surrounded by smiling and well dressed cultivation, can seldom be induced to visit towns on the sea coast, and return invariably from thence, as soon as possible, to their secluded mountain valleys, leading the life of hermits, content with the almost spontaneously growing productions of nature, despising the possession of money, because not desirous to exchange their own productions, and, in consequence, not desirous to add to what we call comforts.

The Kareans seem to be the aborigines of the country, or the remains of a once numerous people, which has been again reduced to slavery by subsequent conquerors. They are scattered over a great extent of the country, from the 23rd degree of latitude to the 11th, and though conquered many centuries ago, have preserved their language and their peculiarities; for they never have mixed with foreigners, but avoid as much as possible all contact with them, prohibiting even connexions with distant tribes of their own, but intermarrying in their own families, so much so, that matrimonial alliances between brother and sister, or father and daughter, are not uncommon to this day. And this may be the reason that they are a subdued, timid, effeminate, diminishing race; so low in the scale of nations, that they have no written language, no historical, but only religious and poetical traditions, not even the presentiment of a future state; but live, without erecting their head to their Creator, without aspiring to a continuation of their existence.

The second race is the Siamese.

This nation were the former conquerors of the Tenasserim Provinces, but were driven out of the country by ALOMPRA in the middle of last century. They are the deadly enemies of the Burmese, formerly living with them in constant feuds, but, since the British occupation, the constantly nourished animosities have ceased, and they have begun to settle in the British territories, and to live peaceably with the Burmese. They are an enterprising industrious race, and possess a great deal of the ingenuity and shrewdness, so peculiar to the Chinese and their descendants.

Their physical development is not stinted, but they are muscular, hardy, and persevering, and are therefore the huntsmen, and the only people who have a knowledge of the vast wilds between *Zim-may* and *Mergui*, going after elephants, rhinoceros, gold-dust and precious stones. They have much of the enterprising spirit of the undaunted adventurer, and are the most capable of improvement.

They are darker than the Burmese, and approach more than the

latter to that prototype, established by GMELIN under the denomination of *Homo-fuscus*.

The Burmese, the third race, and the lords of the land and soil before they were deprived of it, are, comparing their faults and good qualities impartially, an amiable well-behaved race; naturally indolent, self-conceited, and for centuries stationary, but sufficiently civilised to throw off the imputation of being barbarians.

I adhere to the opinion, (consistent with the Mosaic tradition,) that the human species descended from one pair originally; that, in the course of ages, certain distant portions of the globe were first peopled, and that from these, as from many distinct nuclei, mankind dispersed excentrically.

So I think, and history seems to confirm the hypothesis, that from *Java*, *Sumatra*, or *Borneo*, issued the Malayan race; that the Mongols peopling China descended from the high lands of *Kobi*, and that the Indians, originally bred in the Caucasus and its continuations, extended from west to east: and I continue to say, that these three original races, meeting in their courses from south, north and west, in that part of the globe, now called *Indo-China*, gave birth to the nations now inhabiting these regions—that therefore the Burmese are a comparatively recent variety of the human species, the result of Malayan, Chinese and Hindu mixture.

It is here the place to mention that problematical race, which is reported to live in the recesses of the mountain ranges, which, as a spur or a continuation of the great *Himálaya Alps*, run towards the peninsula of Malacca.

I had never the opportunity to ascertain, if this reported race, of the existence of which all the inhabitants in the interior seem to be aware, is one of the numerous varieties of the human species, or belongs to the *Quadrumana*.

If we consider, that close by, on the *Andamans*, there exists a variety of the human species, which justly may be regarded as the lowest in the scale of intellectual beings; and when we are told, that in the south of the peninsula at *Queda*, lives a similar race of beings, belonging to the Ethiopical type, not much superior in intellect to some of the apes, we might be warranted in concluding, that remains of such a race may yet be found in those vast mountainous tracts, which never have been penetrated by Europeans.

However, the collected, and generally pretty well agreeing, descriptions of the natives cover an extent of five degrees: let me indulge in the conjecture, that these pretended human beings are nothing else

than the gigantic orang-outang of *Sumatra*, or a closely allied species, which has hitherto successfully escaped European detection, and still enjoys the daily diminishing privilege in natural history—to be unknown. In fact since the gigantic animal, whose remains ornament only this museum, was by chance discovered, all vestige of its existence disappeared for many years, until recently Major GREGORY brought two skulls of the same species from *Sumatra*, which clearly demonstrate, that the tales, hitherto believed fabulous, of large human skulls with tiger-teeth, have not been altogether unfounded, not as the relics of a rational being, but as the uniting link between man and beast.

Coming now to the *Mammalia*, we find this part of Asia participating in the variety of species, which distinguishes one side of that continent, and in the magnitude of those on the other side. It exhibits nevertheless the distinguishing particulars, which separate all Asia from New Holland, and from the islands of the Pacific Ocean.

In general it may be observed, that the Tenasserim Provinces form a combining line between Hindostan, Indo-China, and the Malayan countries, possessing species peculiar to each of the three divisions, with this distinction, that the number of species in common with Bengal and other parts of Hindostan, is comparatively smaller; that province *Anherst*, and *Ye* possess many species, peculiar to the countries east of the *Burhampootur*, and even several of *Bootan* and *Nepál*, and that the southern provinces embrace many species, which have been hitherto exclusively found only in the Malayan Archipelago.

The *Quadrumana* being every where found within narrower limits, do not present a great variety; some of the species are strictly limited to certain districts.

The *Simia syndactyla* has been found in the southern parts, and can be enumerated as an exception to the general rule; for this animal covers a wide range of congenial country, from *Java* and *Sumatra*, to the 15th degree of north latitude.

A *Hytobates*, though the most common species in the interior, howling most pitifully in the solitary forests, seems to have hitherto escaped the observation of naturalists.

The *Symenopithecus Maurus* is a very wild inhabitant of the loftiest trees, and considered the best food by the Kareans, by whom it is shot with poisoned arrows.

The *Cercopithecus Cynosurus* inhabits chiefly the banks of rivers, and the mangrove forests, being chiefly fond of shellfish.

Another species of *Cercopithecus* belongs to the rarest of this genus, and is found chiefly in the northern parts, upon isolated limestone rocks.

The *Cheiroptera* present a great variety ; and several, I imagine, not yet described species are to be met with, chiefly of the genus *Nyctinomus*, *Phyllostomus* and *Pteropus*. Amongst the rarer species *Vespertilio Temminckii* and *Pteropus Javanicus* must be enumerated.

The *Carnivora* present a great number of species. To maintain the equilibrium in nature, it is also necessary, that where so many species are procreated unmolested by man, the number of rapacious animals must increase.

Of the *Plantigradæ* the *Ursus Malayanus* seems to occupy all the mountain parts, as high up as the 13th degree of latitude.

It must be observed that the genus *Canis* has, so far as I know, no representative in the countries, trans-*Burhampootur* ; this genus, which possesses in Hindostan several interesting and particular species, seems to become obsolete, even the common jackal does not prosper in *Indo-China*, and not one specimen is to be found in Tenasserim. Yet there are several species of *Viverra*, and one *Herpestes*.

In the same ratio as the number of species of *Canis* diminishes, the number of the species of the genus *Felis* increases.

The royal tiger is to be found in great numbers, and is very strong and large ; however, its nature is very different from what it is in Bengal ; for scarcely an example is known of its attacking men during the day time, and the carelessness, and even contempt, with which the natives treat this formidable animal, is truly astonishing.

At *Tavoy* the black tiger, the *Felis Nelao*, is not uncommon, and a specimen was caught last year, but unfortunately on its transport to *Maulmain*, it broke through the bamboo cage, and escaped.

I pass quickly over the *Marsupialia*, and the greatest part of the *Rodentia* in this cursory sketch ; the genus *Sciurus* presents a considerable number of species, and of *Pteromys*, I found a large, and probably undescribed species.

Of the *Edentata*, the little *Bradypus* has been caught, and so also the *Manis Crassicaudata*.

Coming to the *Pachydermata*, I can not omit to mention the number of elephants, which wander in herds of 10 to 30, through the uninhabited tracts, having the wide extent of primitive forests, from the bay of Bengal to the Chinese seas, open to their constant peregrinations, descending during the monsoon into the plains, and returning into the mountains during the hot weather.

The hog is very common, and the *Sus Barbyrussa* not very rare.

The rhinoceros is a common animal throughout the provinces, and perhaps more numerous than the elephant, though its less gregarious

manners, and its wilder character, do not admit an easy approach to it.

The Tenasserim Provinces seem to be a congenial place for this genus, for I dare to pronounce almost positively, that the three known Asiatic species, occur within their range. The *Rhinoceros Indicus* being found in the northern parts of the provinces, in that high range bordering on *Zimmay* called "the elephant tail mountain;" the *R. Sondaicus* of Baron CUVIER, on the contrary, occupies the southernmost parts; while the *R. bicornis Sumatrensis*, or the double-horned species, is to be found throughout the extent of the territories from the 17° to 10° of latitude.

In character the *R. Sondaicus* seems to be the mildest, and can be easily domesticated; the powerful Indian rhinoceros is the shyest, and the double-horned the wildest.

I have had the opportunity to ascertain positively the existence of the *Tapirus Malayanus* within the British boundaries, in latitude 11° 37' in province *Mergui*, though I have not been so fortunate as to obtain a specimen of it. It is well known to the natives who call it the great pig.

Finally coming to the *Ruminantia*, as may be expected, the number of *Cervidæ* is considerable.

Rusa Hippelaphus, *Elaphus Wallichii*, Cuv. *C. Aristotelis*, *C. Axis*, and *C. Muntjac*, besides two other species have been seen; but there is as yet no antelope known.

Of the ox kind, the *Bubalus*, *Arnee* and *Domesticus* are both in a wild state; and of the *Bisons*, the great *Gaurus* rather rare, but *Bison Guodus* very common: besides another small kind of cow, called by the Burmese *Fhain*, of which I saw only foot prints, but never the living animal; it remains therefore undecided, to what species it must be referred.

Of birds I have made a collection of 250 species, and 600 specimens, which I herewith place at the disposal of Government, presenting it to-day to the inspection of the Society, and I only regret that economical reasons compelled me to have the birds prepared by the rude hands of common Burmah coolies, previously, a short time instructed by me; and many, otherwise greatly valuable specimens, are therefore more or less defective.

The species inhabiting the provinces are highly interesting to observers of the geographical distribution of the feathered tribe: for they, more than the *Mammalia*, of which the species occupy wider geographical ranges, prove the intimate connexion and resemblance of the lower portions of the provinces with the Malayan archipelago.

More than 60 species found in the southern hemisphere are indigenous, and amongst these is a considerable number of those first described by RAFFLES and HORSFIELD in their accounts of *Sumatra* and *Java*.

Amongst these are to be enumerated *Falco Limetus*, H. St. *Pagardarum*, TEM. *Strix Castaroptera*, H. *Muscisapa Banyamas* and *Hirundinacea*, Jôra *Scapularis*, *Edolius*, *Puella Crypsirena*, Temma *Vick*, *Brachyptorix montan*, H. *Prinia familiaris*, *Dacelo pulchella* *Eurylaimus*, *Javanensis*, *Eurylaimus tunatus*, GOULD. *Cuculus Xanthorhynchus*, *Parra superciliosa*, &c.

I shall confine the rest of my ornithological observations to very few remarks.

The *Accipitres* are numerous, but as they mostly frequent the gloomy forests, and scarcely accessible cliffs of the mountains, the species are seldom visible, except when soaring high in the heavens, or gliding swiftly over the tops of the lofty trees; many therefore have escaped my observation. The number of *Falconidæ* I collected is 10; of *Strigidæ* five.

The *Passeres* furnish of course that variety, which is to be expected from the great number of species in this order.

The *Hirundinacæ* contain the *H. esculenta*, &c., the nests of which exported into China yield a considerable revenue annually to government.

The family of *Sylviadæ* contains a considerable number of *Taredes*; seven species of *Pastor* or *Acridotheres*, eight *Muscicupidiæ* and several *Oriolinæ*.

The family of *Fringillidæ* boasts of seven species of *Loria*.

The *Corvidæ* possess the beautiful *Cypsinina Temmia Velis*.

It is remarkable that the common crow of Calcutta, the *Corv. Doreus* never occurs in the provinces, its place is supplied by the *Corvus Caronæ*, which is equally numerous and impudent.

The *Certhia* possesses a variety of *Cinnyris* and *Nectarinia* yielding in splendid plumage, and diminutive size, little to the American *Trochili*. The beautiful *Dicaeum inver* forms a connecting link with the *Meropida*, which are the glory of the east in richness of plumage, and four species of *Merops* rival in colors the species of *Java* and New Holland.

Halcyon and *Alcedo* of the nine species that exist, amongst which the *Halcyon Gurial*, an Indian species, takes the lead in size and noise.

The family of *Buceros* contains four representatives, amongst which the small *Buceros Malabaricus* of LATH. is the most common.

The Indian *Homrai* is equally an inhabitant of Tenasserim, besides two or three beautiful species, which I do not find any where described.

Of the order *Scansores*, the *Picus*, or wood-peckers are numerous and beautiful, and I found nine different species. *Picus Bengalensis* showing the affinity with India, and the closely allied *Picus Tiga* of HORSFIELD with *Java*.

The *Cuculidæ* are numerous. Of *Phoenicophæus*, there are three species of small *Cerulis*; the *Centrophus Castaropterus* is one of the commonest inhabitants near human abode.

The genus *Bucco* contains five species, of which two appear to be new.

The *Psittacidæ* have five representatives, amongst which the small *Portrams preporitis* is the great destroyer of *duria* blossoms.

The next order are the *Gallinæ*.

The family of *Columbidæ* possess, as far as I am aware, seven species, of which four belong to the genus *Vinago*.

The splendid *Geophilus Nicobarensis* is an ornament of the Islands constituting the *Mergui* archipelago.

The *Tetraonidæ* possess few representatives, the whole country being an uninterrupted forest, and these animals liking bare rocky grounds, pasturage fields, and meadows. Only one species of *Perdrix*, and two species of *Coturnix* have been observed by me.

The *Phasianidæ* possess the *Ph. Gallus*, or the father of our domestic fowl, in great abundance in the jungles; and the breed, amongst the natives, is commonly kept up by supplies of eggs from the forests.

Of the *Pavonidæ*, the Indian peacock is in great abundance in the interior near mountain torrents.

The *Grallæ*.—Of the *Charadriadæ*, three species of *Charadri* amongst which, the Indian *Ch. ventralis*! of GENL. HARDWICKE, and the *Gloriola* or *Entalis* of LEACH.

The family of *Ardeadæ*, possesses many representatives. The *Ciconia Argala*, or the common Calcutta adjutant, is never seen on that coast, and the existence of a substitute in the *C. capillata* of TEMMINCK, or the adjutant without pouch, reminds us again, that the provinces approach more to *Java* than to Hindostan.

The genera *Grus* and *Ardea*, possess 11 species of which the *Ardea Malacensis* of GMELIN is the most common.

The family of *Fringellidæ* have a due number of species, *Numenius*, *Scolopax*, *Totanus*, *Rhynchus*, *Limosa*, *Tringa* and *Hemantopus* are found, and have their residence chiefly near the mouths of the numerous rivers, descending from the mountains, as far as they are exposed to the influence of the tides.

Of the *Rallidæ* I can only enumerate the *Parra Superciliosa*, and two species of *Ortesgometra*.

Finally ending with the *Palmiperæ*, we have one species of *Pelicanus* so widely spread over the east, and four species of *Carbo*, which have taken up their residence upon the great rivers.

To render the enumeration complete, I have only to mention four species of *Sterna*, and of the *Anatinæ*, the *Anser Girra* of India, the *Mareca Awsuree* and another unknown species.

Having thus completed the enumeration of observed animals I have only to add, as may well be imagined, that the occupation of the provinces by the British, has opened a wide field to the naturalist and philosopher. What I have done has been only to remove the upper veil, which densely covers this much promising land; but the result of my limited researches will, I trust, demonstrate that success and a rich harvest must await every one who investigates the country with leisure, *con gusto et amore*, confining himself to certain definite branches; and I will only add that I shall be most happy to submit to the Society further additions and more information, which, I hope, I shall be able to gather in future.

IV.—On a new species of Pheasant from Tibet. By B. H. HODGSON, Esq.

The zoological region comprising *Tibet*, with the lofty mountains which bound it towards India and China, is chiefly distinguished in the bird department, by the number of its pheasants, (*Phasianidæ*,) hardly any two of which agree in form and external organisation. This rich variety of structure, whilst it mocks all past attempts at systematic arrangement, seems to indicate, that we yet possess, in this family, but the fragment of the complete circle, (termed *Phasianidæ* by VIGORS and *Pavonidæ* by SWAINSON,) though the riches of recent discovery, may induce us to hope, that the deficient forms are not extinct, but only unknown.

Be that as it may, there is at least no doubt, that in the present state of the scientific classification of this family of the *Rasores*, an insulated observer cannot well hope to class newly discovered species satisfactorily; and I shall therefore at once proceed to the summary description of what I believe to be such, without any present attempt to decide, whether my bird be an aberrant species, or a new type in the family.

Phasianidæ, vel *Pavonidæ*.

Genus—new? *Crossoptilon**, nob. Type *Phasianus Crossoptilon*, nob. Hab. Tibet.

I possess but one specimen of this large and striking bird. It is a mature male, and was brought recently to *Cathmandu* by the Nipalese envoy to *Pekin*, who has just returned here. The length, from the tip of the bill to the tip of the tail, is from 38 to 40 inches, of which the bill is $1\frac{5}{8}$ and the tail 19 to 20 inches.

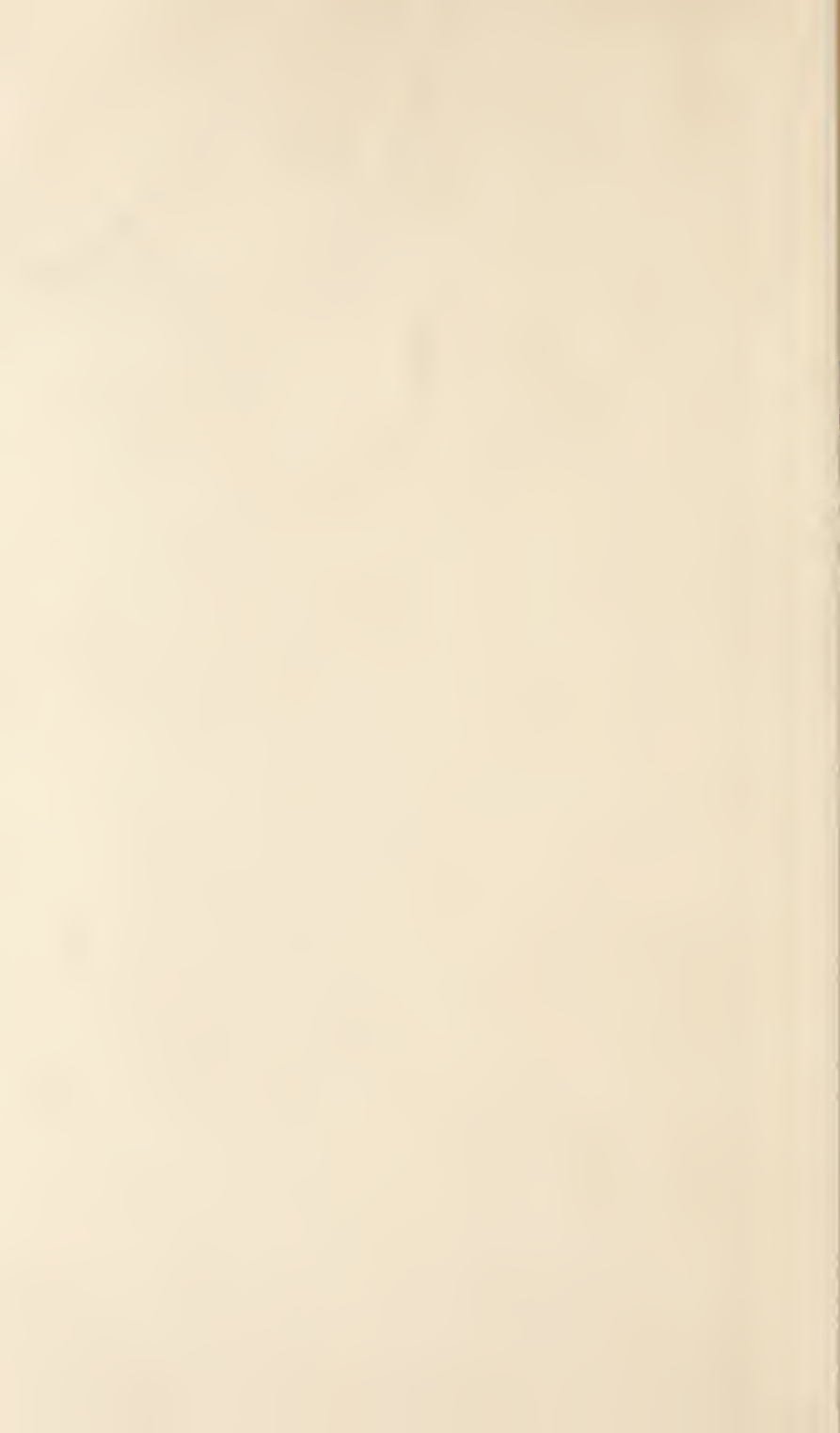
A closed wing measures $12\frac{1}{2}$ inches; the tarsus $4\frac{1}{8}$, and the central toe $2\frac{5}{8}$. The bill has the same length, whether taken from the gape or from the front, and is three-eighths of an inch shorter than the head, the latter being two inches complete. The bill is very strong, with the general characters of that of *Lophophorus*, the tomial edge of the upper mandible being even more scarped, and furnished with a small tooth-like festoon. Its base is nude. The head and throat are clad in feathers and simple. But the entire cheeks, from nostril to occiput, are void of plumes, being occupied by the typical red and papillated skin of the pheasant tribe, and in all that extent of development, which more especially characterises the Indian *Kálíches* (*Leucomelanus*), and the painted and *Amherstian* species of China. Like the true pheasant (*Colchicus*), our bird has no crest of any kind, though the feathers occupying the top of the head are of a peculiar kind, being short, velvety, thickset, erect, with their slightly discomposed and square points recurved a little to the front.

The wings have no peculiarity. They are short, stiff, bowed and rounded, as usual the sixth feather being the longest. The very ample tail is most remarkable for the breadth of the plumes. Its length is moderate, nor is there any of the extra elongation and narrowing of the central feathers, which characterise the tropical pheasants. There are 18 caudal plumes regularly and considerably gradated throughout, and the general form of the tail is broadly convex, without any symptom of the Galline compression and curve. The legs and feet are well adapted for rapid movement on the ground, and have a form and proportion, very similar to those of *Leucomelanus*, and *Satyrus*. The tarsi are nude, and bicaled before and behind: but the hinder scales are smaller than the fore ones. The sides of the tarsi are papillo-reticulate. The spur is sharp and curved. The lateral toes are equal; the central long; and the hind short and raised, as usual. The nails are long and possess but little curve. It remains only to notice the plumage of the bird, which constitutes indeed its most

* *κροσσος* a fringe; *πτίλον* a feather.



Phasianus ? crossoptilon
crossoptilon *Whistling*



remarkable feature. The plumage, then, upon the whole body is very ample, but not at all pointed, unglossed and wholly dishevelled, so as to remind one of the *Struthious* family. This peculiarity has suggested the name I have applied to the bird—a name which, for the present, may be considered specific, but liable to promotion to generic or subgeneric rank, if the form be proved to be typical, and not merely aberrant.

At present I incline to consider it in the former light, and to assign the type a place between *Phasianus* and *Euplocomus*, vel *Nycthemerus*—a type which, by the bye, I characterised 11 years ago in the *Oriental Quarterly*, under the style of *Gallophasis*, assigning the *Kálich* of KIRKPATRICK'S *Nepal* as the *icon*. The oblique compression and curve of the tail constitute the principal character of that type, (*Gallophasis*, vel *Euplocomus*,) and as it is a character sure to be lost in the dry skin, I am not entirely certain, that our present subject may not possess it in the living state. If so, this bird will be a *Gallophasis*, vel *Euplocomus*—but if not, a neighbouring type allied to the true pheasant by the absence of crest, and distinguished amongst all its congeners by its ample fringe-like plumage, the dishevelled quality of which is communicated even to the central tail feathers, the very broad and equal webs of which are quite separated, and curve outwards towards the sides, besides being adorned by a fine gloss.

The general color of our bird is bluish hoary, paler, and tinted yellow on the lower surface: crown of the head black and velvety: great alar and caudal plumes dusky or black, more or less glossed with changeable blue, especially the tail feathers: legs and cheek-piece, intense sanguine: bill dull ochreous red; iris brown.

Nepal, September, 1838.

V.—*Notes of a journey to Gírnár in the Province of Kattywár, for the purpose of copying the ancient inscriptions upon the rock near that place.—Undertaken by order of the Bombay Government.*

May 10th, 1838.—Landed at the small port of *Verawul* on the western coast, and nearly at the southern extremity of *Kattywár*. This place is only 40 miles from *Junagarh*, and in the immediate vicinity of the ancient city of *Pattan*, and of the celebrated *Somnáth*. Owing to the lateness of the season, and the imperative necessity which existed for my proceeding to the scene of my labours with the least possible delay, my time was not at my own disposal; still I lost none in paying even a

hurried visit to these interesting places. Old *Pattan* is built upon a projection of the main land, forming the southern point of the small port and bay of *Verawul*. The road from the latter to the ancient city, lies immediately on the shore of this bay, and for a distance of about a mile from the walls, on the western side, passes through an extensive Muhammadan burying ground: amongst the tombs are some rich and picturesque ruins. The surrounding country, known as the *Soruth* division of *Kattywar*, subject to the nawâb of *Junagarh*, is exceedingly rich, thickly wooded, and in high cultivation. The walls of *Pattan*, in the form of an irregular square, enclose a space somewhat less than two miles in circumference*, with two gates and numerous square towers. The western front is washed by the sea; a ditch encompasses the other three sides. These fortifications, which are high and composed of uncemented square stones, are of unusual solidity, and the old city, with its massive walls and double gates, must formerly have been a place of considerable strength. The population of *Pattan* is at present completely Muhammadân, and the place is under the management of an Arab jemadar, a deputy of H. H. the nawâb of *Junagarh*. To the kindness of SYUD ABDOULLAH, I am indebted for a most hospitable reception, and for every assistance which he could render, or I could require. It is evident that the Muhammadân conquerors of *Pattan*, in rebuilding the place, and substituting a population of their own creed for that of the Hindus, have at the same time laboured to eradicate all traces of the religion of the latter from this city, but the visitor cannot fail to observe the essentially Hindu character of the whole place. The mosques, which are very numerous, appear to have been erected from the ruins of the Hindu temples, whilst the houses, in the ornaments, sculptures, &c., bear about them evidence of their material having frequently been derived from similar sources. The style of building in the gates and walls, the latter adorned at every corner with sculptures of Hindu divinities, proclaim at once to whom *Pattan* was originally indebted for the magnificence, still traceable through all the innovations of its conquerors. This city, as connected with the *Somnâth* temple, and the invasion of *Sarashtra* by MAHMUD, is one of considerable interest; and, as the former capital of an extensive country, deserves some inquiry into its early history, but of it, or its rulers, the Persian historians† do not, that I can learn, give any account.

Quitting these subjects, however, I must proceed to describe the renowned *Somnâth* temple, the monument of MAHMUD's intolerance, and one of the most interesting relics in the *Sarashtra* peninsular.

* One mile 6 furlongs, 36 square and 2 round towers; walls 9 feet thick.

† MIRAT I AHMADI, MIRAT I ISKUNDURI.

This celebrated shrine occupies an elevated site in the south-western corner of the city, overlooking the sea, and close to the walls. In its present mutilated state, I find it very difficult to convey any very distinct or correct idea of the *Somnâth*; for although its original design and gorgeous style of architecture, may still be traced in the complete ruin it presents, its general effect is likely to be better understood from an effect of the pencil, than the pen. (*See Plates, Nos. XLVI. and XLVII.*)

This temple consists of one large hall in an oblong form, from one end of which proceeds a small square chamber or sanctum. The centre of the hall is occupied by a noble dome, over an octagon of eight arches. The remainder of the roof terraced, and supported by numerous pillars. There are three entrances; the sides of the building face to the cardinal points, and the principal entrance is on the eastern side. These doorways are unusually high and wide, in the Egyptian style, decreasing towards the top; they add much to the effect of the building. Internally the whole presents a scene of complete destruction, the pavement is every where covered with heaps of stones, and rubbish, the facings of the walls, capitols of the pillars, in short, every portion possessing any thing approaching to ornament, having been removed or defaced by the "destroyer*." On a pillar, beyond the centre arch, and leading to the sanctum, is an inscription, which, anxious as I was to learn any thing connected with the temple, much excited my curiosity. On translation however, it proved to be merely a record of a certain *silât*, or mason, who visited the place some 300 years since. I learnt to my inexpressible regret, that an ancient tablet, whose unoccupied niche was pointed out to me, had been removed from the *Somnâth* some few years since, by a European visitor. I need hardly quote Col. TOD'S remark on this mistaken, and I fear too frequent, practice; but if what he says be applicable to the mere architectural ornaments of a building, how much more so to engraven records, similar to that which is here wanting.

Externally, the whole of the building is most elaborately carved and ornamented, with figures single, and in groups of various dimensions; many of these appear to have been of some size, but so laboriously was the work of mutilation carried on here, that of the larger figures scarcely a trunk has been left, whilst few, even of the most minute, remain uninjured. The front entrance is ornamented with a portico, and surrounded by two slender minarets, ornaments so much in the Muhammadân style, that I doubt if they belonged to the original building†.

* So MAHMUD entitled himself. See FERISHTAH.

† I think it not at all improbable, that these minarets, the dome, and arches in

The two side entrances, which are at some height from the ground, were gained by flights of steps : of these latter the remains only are to be traced. The whole space, for a considerable distance around the temple, is occupied by portions of pillars, stones, and fragments of the original building. Such is a brief sketch of the present appearance of the renowned *Somnāth*, which notwithstanding МАХМУ'D's intolerant spoliation, must still prove an object of great interest to the lover of Indian antiquities*. I must not omit to mention, as a proof of the wonderful solidity of this structure, that within a few years its roof was used as a battery for some heavy pieces of ordnance, with which the neighbouring port of *Veraval*, was defended from the pirates who formerly infested this coast.

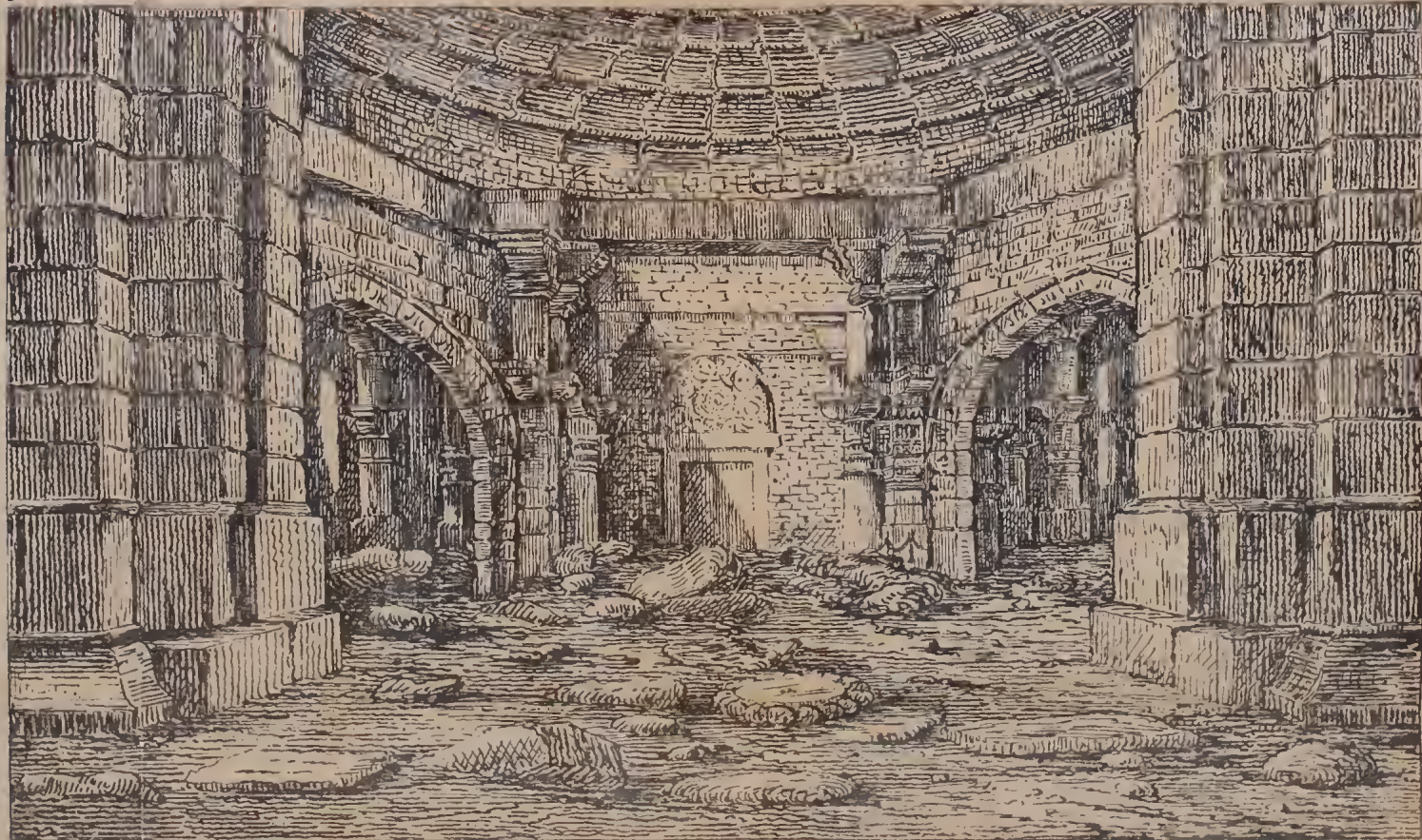
Without pretending to an accurate knowledge of the peculiar features, distinguishing the Buddhistical and Jain from Hindu sanctuaries, my impression, founded simply upon observation, is, that the *Somnāth* was originally a Buddhist temple†, afterwards appropriated to the worship of SIVA ; and probably thus found by МАХМУ'D, at the period of its capture. In confirmation of the Linga having at some period received adoration here, I observed two Nandis outside amongst the ruins : but in its style of architecture and ornament, (particularly the male and female figures,) it is in vain to look for any Hindu features, whilst in all points it agrees most accurately with the Buddhistical. As Dr. WILSON has visited the *Somnāth*, his learning and research in these matters will enable him, if necessary, to judge of the correctness or otherwise of the above remark, which I make with all deference. The modern *Somnāth*, erected by the famous АНЛЫА ВНАЕ, is in the immediate vicinity of the ancient one, but I had not time to inspect it, as my good friend the jemadar had promised to shew me some curiosities outside the city. On passing through the gate to the eastward, my attention was directed to a stone tablet, about two feet square, in the wall to the right. It contained a closely written inscription in the Dēva Nagri character, and in the Sanskrit language ; leaving my pandit to copy this‡, I proceeded on my way.

the interior of the building, may have been added to it after its capture. In the present appearance of the *Somnāth*, it differs widely from FERISHTAH's description, and these peculiar features, are completely Muhammadan. As BIN CASSIM when he conquered *Sindh*, is said to have turned the temples of the idolaters, into places of prayer for the true believers ; so the conqueror of *Pattan* may have shewn his detestation of the idolatry of the *Somnāth*, by attempting to obliterate all traces of the original character of the building.

* Dimensions of the *Somnāth* temple. Extreme length inside not including the small chamber or sanctum, 96 feet ; extreme width, 68 feet : extreme height, 28½ feet.

† The *Somnāth* is known to the Jains under the title of *Chandar Prabas*.

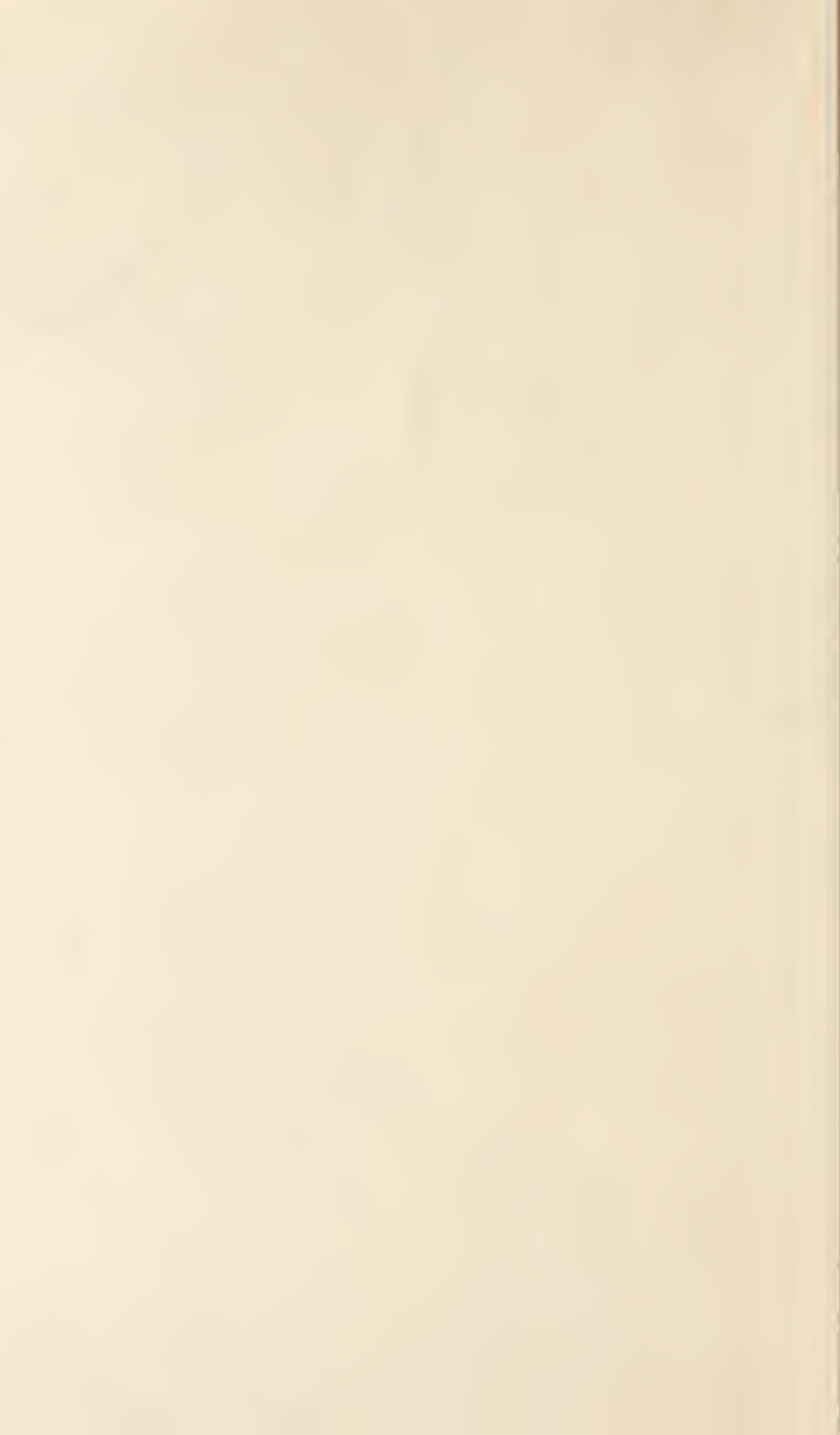
‡ This has been forwarded to Calcutta for interpretation.



Lith. by M. Kettner.

INTERIOR of SOMNATH

from a drawing by Lt. Postans



The neighbourhood of *Pattan* is esteemed especially sacred by Hindus, as the scene of KRISHNA'S death and apotheosis. After the erection of the great temple at *Dwarka*, it is related that he came to this part of the *Sarashtra*, where, according to the fable, he lost his life from the arrow of his brother VALI. A small river, known to Hindu devotees as the *Raunakshi*, empties itself into the sea, at the distance of about a mile to the eastward of *Pattan*. At a particular spot on this river, sacred as that of KRISHNA'S death, are a ghat and a few temples. Pilgrims after a visit to *Dwarka*, come to this stream, where they bathe, and shave the hair from the head and face, in token of mourning. They then proceed to *Prachee* where are some temples (about eight miles up this river): a visit to these concludes a pilgrimage to *Dwarkanath*. In the neighbourhood of the ghât above mentioned, and interspersed through a space of three or four hundred yards in extent, are some excavations, which have all the appearance of Buddhist *viharas*. They consist of a long low and narrow entrance, from which a short flight of steps descends to a small apartment; from this proceeds a gallery leading to another chamber; a succession of three or four chambers and galleries closes the excavation. There are several of these caves, differing little from each other, except that in one or two the galleries continually descend, instead of being on the same level; the last chamber is consequently at a great depth from the entrance. They are all so low and narrow, as to be traversed only in a stooping posture, and in none could I discover the slightest trace of either ornament or idol. The attendant Brahmans at the ghât appear to attach some sanctity to these excavations, and have kept many of them in good repair, with a facing of chunam. Confirmatory of my opinion, that these were originally *viharas*, belonging to some Buddhist establishment in the vicinity, I was fortunate enough to discover near one of them a figure of BUDDH. The face and arms are destroyed, but the sitting posture, crossed legs, and remains of pendants from the ears upon the shoulder, at once decide its character. I subjoin a sketch of this statue*. It is small, the figure, together with a pedestal on which it is sitting, being only four feet high. The pedestal is ornamented with female figures, and the figure itself is supported by a slender pillar, which is broken off just above the head. The whole is framed from one block of a hard description of red stone. There are in the disfigured appearance of this statue, undoubted marks of its antiquity. I questioned the Brahmans on the spot, concerning it and

* The sketch so exactly corresponds with other statues of Budh, that it has not been deemed necessary to have it engraved.

the *viharas*, but they were quite at a loss to account for either; my aversion on principle to remove such relics, alone prevented me from making a prize of this, which unless I have overrated its value, would doubtless form an interesting addition to one of our museums. Still, neglected and unknown where it now is, its presence may prove of great use to some future, and more capable, inquirer into the antiquities of this part of India, which has been designated by Colonel Tod, as "the cradle of Jain and Buddhist worship." After visiting all the *viharas*, and a very pretty though modern Jain temple in their vicinity, I returned to *Pattan*, where the remainder of the day was occupied in taking hurried sketches of the *Somnāth*. I made every inquiry of the few Brahmins to be found in the scanty Hindu population of *Pattan*, for traditions, &c. respecting the temple or city, but I learnt that the only one, whose *chopras* could furnish me with any information on the subject, was absent. For coins I sought in vain, my good friend the jemadar, however, having promised to forward me all that the city can furnish, as well as to procure me some traditions*, I took leave of him with many acknowledgments of the attention he had shown me. I regretted exceedingly, that time did not admit of my making a longer stay at *Pattan*, as well as of my proceeding to the ruins of *Mundore*, *Prachee*, and other interesting places in the neighbourhood. I doubt not they would have well repaid me the trouble of a visit.

May 16th.—Reached *Junagarh*. The whole country passed through from *Verawal* to the capital, is not only the richest, and most productive in *Kattywar*, but may vie in fertility with any part of *Guzerat*. A black soil is watered by numerous streams, whence irrigation is easily carried on, the water being sufficiently near the surface to admit of its being raised by the Persian wheel. This division of the province, consequently suffers comparatively little from the droughts, which too frequently cause devastation and famine in other parts of *Kattywar*; from the continued and abundant supply of water, from these rivulets, the want of rain is not so severely felt as elsewhere. The crops are chiefly sugarcane, wheat, and jowaree, the mango tree flourishes in great luxuriance, and the fruit is excellent. Indeed a stranger would form a most erroneous opinion of the whole province, were he to judge of it in passing through the territories of H. H. the nawâb of *Junagarh*: for the arid and extensive plains, which form the leading features of the *Kattywar* country, are strikingly contrasted with this highly favored division, abounding in hill and dale, wood and water. From the indolence of its ruler however, this fair possession is sadly mismanaged.

* These I received whilst at *Junagarh* and forwarded to Mr. PRINSEP, who will be able to determine their claims to notice.

The approach to *Junagarh* from the southwest is very picturesque, the road for some miles passing through rich topes of mango, tamarind, and other trees : near the city are some gardens in high cultivation. The range, known as the *Junagarh* hills, appears from this direction to run nearly north and west, occupying an extreme extent of about twelve miles. The hills are all of granite formation, but richly clothed with jungle, extending to some miles around their base. The highest point is the summit of the *Gírnár*, situated in the rear of the principal range, to which it is connected by two shoulders or spurs, running westerly, and southerly, from about halfway up the summit. A large opening in nearly the centre of the front range, forms a beautiful valley and road to the sacred mount, which, with its bold granite bluffs, and tapering peaks half hidden in mist and clouds, is a noble feature in the landscape.

The city of *Junagarh* is situated at the entrance of the valley just mentioned, with its low walls nearly hidden by the jungle around ; the only conspicuous object is the old *Rajput* citadel, or as it is called from its elevated situation, the *Uparkót*, a very fine piece of fortification, situated within, and on the eastern side of the modern city. The straggling walls of *Junagarh*, occupy an immense area, not more than half of which is inhabited ; the whole of the eastern portion, is an unoccupied space. The population may be estimated at about 20,000, the majority Hindu ; the streets are narrow and dirty, houses badly built, with nothing about the place approaching to that bustle, and air of prosperity, which might reasonably be looked for in the capital of a rich territory. Situated in the centre of one of the bazars, is the nawáb's palace, an insignificant building ; indeed, with the exception of a few mosques and tombs, none of the modern buildings deserve notice. A very convenient *havellee* has been appropriated by H. H. the nawáb, for the accommodation of officers visiting *Junagarh*. I was thus fortunate in escaping the inconvenience incidental to tents, at a season of the year, when any unnecessary exposure to the intense heat at this place, would perhaps have defeated my object. I had also reason to congratulate myself on meeting Captain LANG at *Junagarh*. Through his exertions, the inscriptions at *Gírnár* were first copied, and to the kind assistance which he on all occasions rendered me, whilst occupied in my work, I feel mainly indebted for any success with which my own exertions have been attended.

Immediately on my arrival, I accompanied Captain LANG to look at the inscriptions. The celebrated rock, on which they are engraved, is distant about half a mile to the eastward of the city, a few yards to the

right of the *Gírnár* road. It is one of a group of several large granite blocks, and appears to have been chosen for its peculiar form, which approaches to that of a flattened cone. The inscriptions occupy three sides of the rock, that to the eastward being the most ancient; whilst those on the western and northern faces, are in a more modern character. The ancient characters, recording the edicts of ASOKA, are deeply cut, and, except where a portion of the stone has been removed by violence, are very perfect. The same remark will also apply to that on the upper western side, but the large inscription on the northern face next to the road, is greatly defaced. The rock here has been much weather-worn, and the characters appear to have been originally faintly cut. A substantial causeway commences immediately opposite the rock, and crossing the ravine at the bottom of the valley, with a neat bridge, terminates near some Hindu temples, and a small but sacred reservoir, called the *Damodar Kúnd**. This improvement on the high road to *Gírnár*, is the gift of one of the wealthiest of the Soondajee family, and is a noble work. The large portion of the rock, removed from the eastern face, has evidently been the effect of blasting, the materials being in all probability appropriated to the pavement of the causeway.

The survey of my work concluded, preparations were made without loss of time for commencing the copies and facsimiles. Without detailing the result of each day's proceedings whilst occupied in the work, I subjoin a somewhat more detailed account of the inscriptions themselves, with the methods pursued to ensure the necessary correctness in their transcription. The most interesting character is the ancient one, recording the edicts of king ASOKA, and situated as before mentioned, on the eastern face: the letters are each $1\frac{1}{2}$ inches, uniform in size, and very clearly and deeply cut. (No. 4.) This inscription consists of two grand divisions, the edicts being again sub-divided by a longitudinal line between each edict; one line from the summit of the rock to about midway down its face, forms the two great divisions. The space occupied by this inscription is 9 square yards†. Pursuing Capt. LANG's as my first plan, the letters were carefully filled up with a red pigment, (vermilion and oil,) every attention being paid to the inflections, and other minute though important points. A thin and perfectly transparent cloth, was then tightly glued over the whole of one division, and the letters as seen plainly through the cloth, traced upon it in black: in this way all the edicts were transcribed, and the cloth being

* Distance of this causeway 700 yards.

† The rock on the eastern side which is the highest, is 12 feet in perpendicular height, and 74 feet in circumference at the base.





removed, the copy was carefully revised letter by letter with the original. The very smooth and convex surface of the rock on this face, was highly favorable to this method, but it is tedious, and occupied in the old character alone, 10 days of incessant labour. In the next place a correct copy was taken by hand : this proved very useful, as tending to the discovery of any errors, when compared with the copy on the cloth. Thirdly and lastly, the plan, so highly recommended by M. JACQUET, was resorted to, which, when the surface of the rock will admit of it, and the characters are pretty deeply cut and distinct, is unquestionably the most rapid and satisfactory of all the methods yet brought to my notice. The edicts by this method were taken off separately on paper : and, although my first trial, I have reason to think that the facsimiles themselves will show that the result was satisfactory. The inscription on the western side, begins at the summit of the rock, where it is separated only by a small space from the first edict in the old character, and occupies a space of about fifty-six square feet. The shape of the rock is here very irregular, but the character is carved through all the undulations, and in one place several lines are continued over a sharp angle. From the very centre of this inscription, the surface of the rock, in one or two formidable pieces, has been removed, thereby occasioning some very serious hiatuses ; but the lines appear to be individually terminal, and the letters generally clear and well carved. With this character, I pursued only the plan of filling in, and tracing upon cloth, afterwards carefully revising the work, so as to enable me to be satisfied with its correctness. The last inscription on the northern side, is the most faulty of the three ; the letters appear originally to have been very faintly cut, are small, and not uniform in size. The surface of the rock is very irregular, with large fissures, the whole much weather-worn, and mutilated. (No. 5.) No pains were spared to transcribe it on the cloth, and I can only trust, that it will be found as perfect, as under circumstances it could be made. M. JACQUET's plan could not have been applied with any advantage to either of these two inscriptions, in the first owing to the undulatory form of the rock, and in the second from the faintness of the character ; copies by hand would have occupied immense time in this peculiar character ; and the very imperfect state of the northern inscription, would have differed in nothing from the cloth. Some few large and curious tablets occupy the front of a small piece of rock, near the eastern face of the larger one ; there are no other ancient inscriptions at the foot of *Gírnar*, or in the neighbourhood of *Junagarh*.

I need not observe, that it became an object of primary interest with Captain LANG and myself, to find some clue to the discovery of the

missing portion of the rock on the eastern side, as the highly important 18th edict, containing the names of PTOLEMY, &c., had principally suffered from the mutilation. All our inquiries tended to the conclusion, that the rock had been blasted to furnish materials for the neighbouring causeway: to remove any sufficiently extensive part of the pavement of this, would have been attended with an expense, which I did not feel myself authorized in incurring without authority, but the whole of the soil at the base of the rock, particularly on the eastern side, was turned up to a considerable distance, and as deep as could be gone. In this way numerous small fragments of the original rock were found, confirming our surmises, as to the purpose to which the other portions had been applied*: from these fragments only two had the old, and one a portion of a letter in the modern character upon them.

For any further information respecting this noted rock and monument of antiquity, I must refer to my plans, and rough sketches which accompany these notes; but I cannot help expressing, at the termination of my work upon it, how much I owe to the politeness of H. H. the nawáb, whose hospitality and kindness, during my stay at *Junagarh*, were unbounded; by his direction, an awning was spread over the stone, and an Arab guard was furnished me; in short that assistance was afforded, without which, it is doubtful if I could have proceeded.

Within the walls of *Junagarh*, the *Uparkót* and some excavations at its base, are the only objects of any interest. The old citadel is built upon an elevation of the limestone, which appears to cap over the granite at the base of the hills; and on which the city of *Junagarh* is situated. This is quarried in all directions in the eastern, or unoccupied part of the city, and is so soft as to be easily cut with a hatchet. It hardens however on exposure, and is invariably used as a building material. The *Uparkót* is a noble specimen of eastern fortification, its walls being unusually high, with immense bastions. The materials for these have been taken from a wide and deep ditch, which has been scarp-ed all round it. There is only one gateway and narrow entrance from the westward, guarded by a few sebundeas of the nawáb, who, as a matter of form, still keeps the keys of this stronghold. With the exception of a very handsome musjid, which occupies the highest part of the interior, the whole is a mass of ruins, overgrown with a thick jungle of the custard-apple tree: the musjid has suffered much

* We are indebted to H. H. the present nawáb of *Junagarh*, for the preservation of the inscriptions from total destruction, as he interfered to prevent the further mutilation of the stone. The popular belief in the spot is, that the unknown characters refer to immense treasures, buried in the neighbourhood of, or under the rock.



M. K. L. L. L.

Rock & Inscriptions from the North.

from a sketch by L. Postans.



from the earthquake of A. D. 1819, but is still a very magnificent building; its roof affords some fine views: the most splendid is that of the "Mighty *Gírnar*," as seen through the opening in the hills, with the causeway and bridge crossing the ravine in the foreground. In the rear of the *musjid* is a very curious piece of ordnance, with an Arabic inscription; its material appears to be a composition something like bell-metal; its length is $17\frac{1}{2}$ feet; circumference at the breech 5 feet, this latter quite flat; bore capable of carrying a 12lb. ball. The following is a translation of the inscription on this gun: "SULTAN SULEEMAN BIN SULEEM KHAN ordered the manufacture of this gun, in the year of the H. 937, to the intent, that it should be employed in the destruction of the infidels of Hind. Maker of the gun, MAHOMED BIN HUMZAL of *Misar*." In another part of the fort is a piece of the same description as the above; but smaller in size. There are also some curious specimens of iron guns: so rude is their construction, that firing them must have been attended with no little danger to the artillery men: they are evidently first efforts in the art of casting. The greatest curiosities in the fort however are two wells, or more correctly, to designate them according to their construction, a *bouree*, and a well or *kooa*: the dimensions of these places which I subjoin, will shew the immense scale on which they are constructed*. The well is square, and lined with masonry for a few feet from the top. An excavation has been made at the distance of about one-third of its depth, where is a bathing place and entrance to a gallery, which descends by steps to the bottom, the light being admitted by large square holes or windows opening into the well. The softness of the stone offers every facility for such a work, and I observed that the strata here dip at an angle of about 30° , with a strike to the north. Owing to the great elevation of the interior of the *Uparkot*, water could not be found but at an immense depth. The *bouree* is nearly circular, and occupies the whole of a large bastion to the eastward. Its interior is lined with solid masonry, and the descent is by a fine flight of steps; these, with a portion of the walls, and the whole of the entrance to the west, are all the remains now traceable of the Rajput possessors of this place, the last of whom, rája MUNDALIK, descended from a line of princes, who it is stated ruled here for 19 centuries, gave up the fort and his throne to MAHMUD BIGARRAHA, H. 877, A. D. 1472†. I was fortunate in discovering a

* Depth of well, 180 feet, 37 feet square. Ditto of *Bouree*, 96 ditto. Circumference ditto, 74 ditto. Length of descent to ditto, 240 ditto.

† For a detailed account of the capture of this place, conversion of the rája to the Muhammadan religion, &c., see the *Mirati Iskandari*; the following extract from

tablet in the wall, in the interior of the fort, which contains an edict by this rāja MUNDALIK, dated S. 1507, A. D. 1451. It reminded me much of the noted ones by king ASOKA, since it contains an order that every 11th day shall be considered sacred, coupled with injunctions against the destruction of animal life.

The excavations, of which there are several at the base of the *Uparkot*, are made in the face of the same soft stone, and consist in some of three or four low apartments; in others there are as many as six, with a large or principal one in the centre. These apartments are small, flat-roofed, and supported by square pillars without ornament; the entrances to many are through small and low door-ways, but the greater number are quite open. These places are said by some to have been the haunts of a tribe of robbers called *Kaphrias*, and it is a curious coincidence, that on inquiry respecting some similar excavations in a sandstone hill, which I observed near *Lukput* at the western extremity of *Cutch*, I was told exactly the same story. In the neighbourhood of Buddhist records, any thing approaching to a *vihara*, becomes of great interest; but I fear the very soft nature of the stone from which these are excavated, will not allow of their being considered of any great antiquity. I may however be mistaken in this, and perhaps my sketches of one or two of these caves* may assist in determining, how far they are worthy of being considered ancient. In one was the following inscription, "SHAIKH ALI, the servant of the servant of God; took up his abode in this place, in the year H. 940."

I procured some few coins at *Junagarh*; one belonging to the *Sarashtra* dynasties; the others, the small, and generally illegible, cop-

that work, which I procured at *Junagarh*, is a description of the *Girnār* and *Uparkot*; this latter is the ancient *Junagarh*, the modern city was styled *Mustafabad*; but the whole is now only known by the ancient title.—"The *Girnār* on three sides is encompassed by hills, those on the northern side are the nearest, those to the south the most distant. The extent of these hills from N. to S. is 12 kos, the whole covered with thick jungle, in which are many caverns inhabited by birds and beasts, and a race of infidels called *Khants*: these castes when pursued by troops flee to the fastnesses of the jungle. There are numerous extraordinary trees growing here whose names are unknown, but besides these are many fruit trees, as the jambu, tamarind, mango, kirnee, and awleh. From the foot of the hill of *Girnār* towards the west, at the distance of three or four bow shots, is a rocky eminence, on which is built the fort of *Junagarh*, whose walls are very strong; there are two wells and two bories: the former are known by the names of *Sri* and *Chiri*. The king of this place was rāja MUNDALIK, mentioned in Indian histories, whose family ruled here for 19 centuries.

* The sketches sent by Lt. POSTANS appear to establish his theory, that the caves were heretofore *viharas* of a Buddhist monastical establishment: but they exhibit nothing curious or unusual, being similar in every respect to those found at *Dhauri* in *Katak*, and the number of other plates of this article compels us to omit them.

per pice, known in *Cutch*, where they are very common, as the *Gudha ka pysa*; the fable connected with them is evidently as common in *Kat-tuwar*, as in the former place, and with many other points of traditionary similitude, may I think be admitted in proof of the connection between the Rajput tribes of both provinces.

All my researches tending to the conviction, that, beyond what I have detailed, *Junagarh* could boast of no antiquities within its walls, any further description of it as a modern Muhammadān city, would be superfluous. I shall therefore proceed to the summit of *Gīrnār*, the distance of which from the city gates, is calculated by the natives at seven kos (about 10 miles)*. The road from the noted rock to the *Damudar Kūnd*, and temples before mentioned, is over the causeway, on the edge of the nullah, or mountain torrent, which is crossed by a very neat and substantial bridge. This nullah runs directly west from the foot of the *Gīrnār*, to the eastern gate of *Junagarh*, where it branches off, following the walls of the city in a northerly direction. To within a short distance of the city, its bed is a succession of immense masses of granite, over which I was told, a torrent, fed by smaller streams from the hills, rushes with great impetuosity during the rainy season. There is no other nullah or river at the foot of the *Gīrnār*, in this direction.

A few days previous to my quitting *Junagarh*, I received, amongst other interesting papers from Mr. PRINSEP, one which referred to the inscription on the eastern side of the rock, in which mention is made "of the *Paleshini* river, with a bridge at the foot of the hill of *Girīnagar*, thrice destroyed by inundations, and repaired with wood and stone, 400 cubits long and 75 wide, &c." To have discovered the slightest remains of this bridge, would have been highly gratifying, and I spared no exertion to that end. That the water-course, or large nullah which I have described, is the *Paleshini* "river" alluded to, I feel convinced, from the fact of its being the only channel for the mountain torrents in this direction. Whilst its "inundations" which thrice destroyed the former bridge, agree with the present violence of these torrents. The title of "river" thus given to a large nullah, not more than 50 yards in width at its greatest extent, must be considered as an allowable exaggeration, probably to enhance the magnitude of the work of throwing a bridge across it. Again, the present must always have been the high road, as it is the only accessible one to *Gīrnār* on the

* Two kos from the city gate to the foot of the mountain, and thence five kos to the summit; this latter it will be seen from the measurement given, is an absurd exaggeration.

western side. Of this the position of the rock with its inscriptions, intended as they must have been, to attract attention in the vicinity of a great thoroughfare, is sufficient proof ; and hence the former necessity, as now, of a bridge, to enable travellers to *Girnár* to cross the ravine, or "*Paleshini* river." In the absence of even the slightest remains, (so far as I could trace,) of the ancient bridge, the only difficulty in determining its site, is to be found in the measurement given (400 cubits long) ; but I think that even this difficulty may be explained away, without departing far from local evidence. A bridge to have been of any use on the road to *Girnár*, could only have been erected on, or near the site of the present one, as it is the narrowest part of the valley, and must have stretched the whole breadth of the ravine ; which must be crossed at this precise spot. The greatest distance between the two hills is here only 120 feet, whilst the length of the bridge, according to the measurement in the inscription, calculating the cubit at 19 inches, would be 633 feet—a difference too great to allow of the standard of the cubit in those days being altered to adapt itself to it. But the word "bridge" has, I doubt not, in the inscription, been applied not only to the masonry, &c., spanning the ravine, but also to some portion of the causeway or approach to the same. This I think more than probable, for although the present causeway, actually crosses the nullah in a bridge at one spot only, yet for its whole length, it is necessarily so immediately on the edge of the ravine, and indeed in some places may be said so much to overhang it that the word "bridge" would probably be applied by the natives, to a greater portion, than that actually connecting the opposite banks of the ravine, at the single point where such connection could be of any use to travellers to *Girnár*. Unless the "*Paleshini Nuddee*" is to be looked for in another direction altogether, there is no other way than the above, of accounting for the dimensions of the bridge ; but as there happens to be only this approach to *Girnár* from the westward, and as its position is immediately at the foot of the hill—coupled with the position of the rock and inscriptions—there can be no doubt that it is the place referred to. The only remaining pathway to *Girnár* through the jungle from the southward, has no river, torrent, or corresponding feature about it*.

* This is an accessible but unfrequented pathway, considered dangerous by the natives, from the fear of wild beasts, (lions abound in these hills,) and the *Khants* ; this tribe of freebooters still infest the jungles around *Junagarh*, as described by the author of the *Mirat i Iskandari*. Even the high and well frequented road from the westward, is not considered safe from these depredators, and all the visitors to *Girnár* who can afford it, hire Arab and Mekrani guards to escort them to the temples. Captain LANG and myself were fired on by a party of these outlaws in passing through the jungle on the eastern side, and at the foot of the *Girnár*.

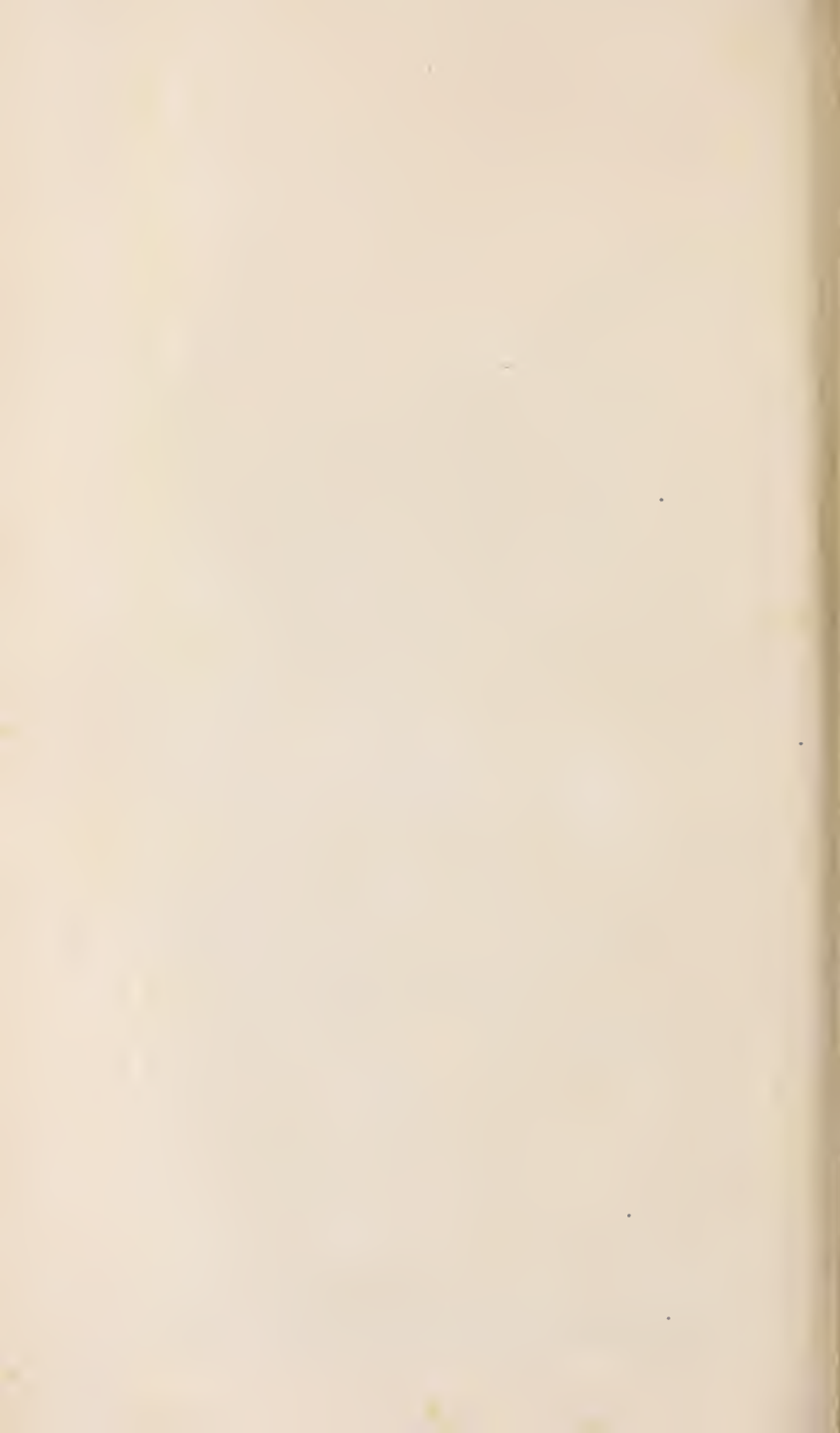


No 1 Ardabees Mata summit of the Mount
2 Jain Temples
3 Beenu Thap
4 Dhurum sala, & Balting Place

SKETCH OF THE GIRNAR FROM THE UPARKOT JUNAGARH.

By Lieut Postans Bomb Eng^r

Lies S.E. of Bridge and part of causeway
* Position of Stone with Ins^{cription} of
various Kings, near 1
of Chao Muir



I could trace nothing approaching "*Paleshini*" in the names by which the ravine is at present known; these are the *Sirsihee*, *Tribenee*, and *Sonarekha*,—this latter, having some allusion to gold being found in its bed, is curious.

Although I failed to discover the slightest trace of the ancient bridge, the remains of an old causeway are to be seen near the present one, crossing the bed of the ravine in a diagonal direction. It is only traceable for a few yards, but appears to have been connected with some former extensive work of the kind, as it is again to be seen for a short extent beyond the modern causeway towards *Junagarh*. From the *Damodar Kúnd* and temples the *Gírnár* road winds through thick jungle, the ascent commencing at the foot of the western spur or shoulder*. Here it is necessary to quit the horse, and take to a rude, but very convenient conveyance for the purpose; consisting of a small square seat, suspended from two short poles and carried by four men. After a winding and rugged ascent of about a mile, the shoulder terminates at the foot of the scarp, where is a small *dharamsála* and halting-place. Up to this point, the *Gírnár* is connected with the lower range, and its sides, together with the gorges and the valleys of the hills beneath, are richly clothed with a most luxuriant jungle, diversified only with the black rocks, which occasionally appear through the trees and vegetation. But for the rest of the ascent, the sacred mount rises an immense, bare, and isolated granite rock, presenting all the gigantic masses peculiar to that formation. The whole face of the rock is quite black, with occasional white streaks, probably of felspar. The sides to the north and south are nearly perpendicular scarps; on the extreme point of the northern side is an immense pillar or boulder, which seems as it were poised on its pinnacle, requiring only a slight force to dislodge it. This pillar is sometimes the scene of self-sacrifice, and is hence called the *Beiru Jhap* or leap of death†. The noted Jain temples occupy a small ledge or table land surmounting the scarp, and the wall of a kind of fort, which is erected round them, is immediately on the edge of the rock. As seen from below, their apparently very diminutive size has a curious effect. From the *dha-*

* The whole distance from the commencement of the ascent to the summit of the *Gírnár*, I found to be 4691 yards, or two miles, five furlongs, and 71 yards. Its perpendicular height above the level of the sea, is said to be 2500 feet; but this, I had not the means of determining.

† The belief appears to be, that the victim will secure to himself the rank of *rāja* in the next stage of his existence. The immense number of eagles which sail round this pillar and the scarp, add much to its apparent height. A poor wretch had sacrificed himself only a few days before our arrival.

ramsála just mentioned, to the temples, the ascent winds up the face of the rock, every trifling ledge or irregularity in the surface of which has been most ingeniously turned to account, in the formation of a pathway generally about five feet wide, with steps of masonry: these latter are said to have been the gift of a rich mahajun from *Boondee* in *Rajputána*. This part of the journey is calculated to try the nerves of the traveller, bordering, as the pathway does, upon a perpendicular descent of many hundred feet: a false step might be fatal; and it is quite extraordinary to observe the ease and alacrity, with which the bearers turn the sharp corners and difficult passages in this narrow and dangerous ascent. In descending, they carry the dooley at a rapid pace; but constant practice has made the road so familiar to these poor people, that their dexterity banishes all idea of danger. To attempt any description in detail of the lavish richness in the style and architecture of the *Gírnár* temples, would be beyond my limits. Commanding, as the sect does by whom they are erected and kept up, much of the wealth of India, they have evidently spared none, to make these monuments of their superstition of surpassing magnificence. The walls of the fort, to which I have alluded, occupy the whole ledge surmounting the scarp, and within it are eight temples, a *dharamsála*, and two tanks*. Of the former, the largest and most gorgeous, though by no means the most ancient, is sacred to NEEMNÁTH, whilst the others are erected in honor of the favourite saint PARISNÁTHJÍ'. The figures of the saints, which are very numerous, are generally small, but there is one colossal image of RIKHABDEO†. There are many inscriptions on various parts of the temples, recording the repairs and additions made to them from time to time by the mahajuns. The original material in all is granite, but the expense of working it being too great, the repairs‡ are now carried on with the stone brought from below, and quarried in the eastern part of the city of *Junagarh*. There are three ancient temples, whose peculiar form, with something approaching to a *Dahgop* occupying the whole space in their centre, would lead to the conclusion that they are of Buddhist origin. The dates

* The largest of these was the gift of king KUMAR PAL, 8th of the *Choluk Wunkshi* tribe who ruled at *Anhilwarrah Pattan*.

† Height from the gadee, on which this figure is sitting, to the top of the head 13 feet; length of foot 3 feet. Material, granite coated with chunam.

‡ Many of these temples have been much mutilated, and one which is now rebuilding, was completely thrown down by ALLAH UD DEEN, styled *Khoonie* (or the bloody), who is said to have ravaged *Guzerat* like MAHMUD of old. The time of this Muhammadan conqueror is obscure, but at *Gírnár* they say about 200 years ago. I think the temples at *Abú* suffered from the same person.

of these, with copies of inscriptions upon them, as well as the traditions respecting *Gīrnār*, and the other noted Jain sanctuaries at *Sitrūnjih* or *Pallitana*, have been promised me by a *jattee*, whom I had the good fortune to meet at *Junagarh**, and will, when procured, form the subject of a separate paper. The temples at *Gīrnār* are under the care of *Charuns*, who spare no trouble to shew strangers all the curiosities of the place. The month *Phahgun* (February and March) is the period of the great annual *jattra*h at *Gīrnār*, when crowds of mahajuns from all parts of western and central India assemble to visit these shrines†.

From the temples, to the summit of the mount, the ascent is gradual and easy, the steps being continued the whole way. A thin layer of soil upon the surface of the rock, affords sufficient nourishment to the *korunder* bush and wild fig; the former grows with great luxuriance‡. Several small and detached temples occupy sites to the right and left of the pathway; but the only spot of any note, before reaching the summit, is the *Ghai Māk*h, a spring of beautifully clear water, which issues, as the name implies, from the mouth of the sacred animal: some small shrines are built near it, and it is believed to possess the property of

* There is a small establishment of these men at *Junagarh* belonging to the *Gīrnār* temples, and from the chapras much curious and interesting matter is often to be gained; they are the only annalists in this part of India, and it is evident from the perfect coincidence in names and dates, that those Muhammadan historians who have written on *Guzerat*, were indebted to the Jain priests and their books (generally in the Basha), for all the information they possess respecting *Anhilwarra Pattan* and similar places. Their annals extend as far back as *Pattiliputta*, and *Chandagutto*, *Bindusaro*, and *Asoko* are familiar names; but here, their chronology fails them, and beyond the mere names and order of succession they can give no information. In connection with *ASOKA*'s name, I was happy to have it in my power to make my friend the *jattee* (*HASTI WIJAH*) some return for the assistance he afforded me whilst at *Gīrnār*, by enlightening him on the subject of the character on the noted rock, which he confessed had long excited his curiosity. I also gave him one of Mr. PRINSEP'S Sanskrit alphabets; with the assistance of this, and his knowledge of the language, he will be enabled to decipher the edicts of a king, whose name figures in his chapras.

† Although this is the periodical *jattra*h, *Gīrnār* is always well attended, particularly by jogies, who take it on their return from *Dwarka*. The liberal *Sudawurts* which are established here, act as no little incentive to these people, and every natural cave or shelter afforded by the rocks in various parts of the summit, is occupied by one or more of the *Sunyasi* tribe. They come well provided with *Sanks* from *Sankūdar* (island of *Bate* near *Dwarka*) and at sun-set the whole hill is made to resound to their shrill sounds.

‡ The soil and climate of the *Gīrnār* and neighbouring hills, appear particularly congenial to the growth of the mango. On the eastern side of the former, two extensive ledges in the side of the mount, are entirely occupied by thickets of this tree, and are known as the *Sasha Wun*, 1000, and *Lacka Wun*, 100,000—referring to the number of trees in each. The former is said to have been the scene of a *tupusya* by *NEEMNATH*, who was also attended by 1000 devotees.

purifying from sin. The highest point of the *Gírnár** is occupied by an ancient temple to *Mata*, or, as it is styled, *Ambavee Mata*; originally Jain, but at present used by the Hindus, and the only one they possess upon the *Gírnár*. From this temple towards the south, the road and steps lead to a slight descent, from which a view is obtained of two extraordinary-shaped forks, or peaks of bare granite, which rise from considerable and detached bases to an immense height, gradually receding to points at their summits; they are separated from the *Gírnár* by a deep ravine, and the farthest and loftiest is surmounted by a small building, and known as the *Gúrú Dutatri*. As seen from this side, these pinnacles appear perfectly inaccessible; but the *Gúrú Dutatri* is gained by a continuation of the steps, and pilgrims from all parts of India traverse this dangerous and often fatal pathway, daily†.

Without enumerating the many small shrines and sacred spots on the summit of the *Gírnár*, it will be sufficient to observe, that the whole of this extraordinary mount, is invested with peculiar sanctity, the origin of which would seem to be of high antiquity. That the present system of worship is a graft of the ancient Buddhist faith which obtained here, there can be no doubt. The Edicts of PYADASI testify abundantly that the hill of "*Girinagar*" and its neighbourhood, was originally a stronghold of the monotheists, whose form of worship has now degenerated into the modern system of Jainism.

The neighbourhood of *Junagarh* has also its share of Muhammadan sanctity. A shrine called the *Dutar*, sacred to the memory of a noted saint, (JUMAL SHA'H,) crowns the summit of a hill to the southward, and is as highly venerated as any in *Guzerat*. This spot is also said to have been the scene of some extraordinary austerities performed by this *peer*, who lived about 100 years ago. The stories connected with JUMAL SHÁH are vague and contradictory; by some he is said to have been buried at *Junagarh*; by others *Tattah* in *Sindh*, is said to claim the honor of his remains. But the veneration paid to his memory is extraordinary. At the foot of the hill various lepers and other persons afflicted with loathsome diseases, have taken up their residence, and occupy themselves in calling upon the saint's name to release them from their afflictions, and restore them to their families; and I have seen the *Cutch* boatmen make their offerings to this shrine, as they pass in view of the *Junagarh* hills along the western coast of *Kat-tywar*.

* The greatest breadth of the table land at the summit of the *Gírnár* is only 15 yards.

† One man lost his life, by falling from the steps leading to this pinnacle, whilst we were on the *Gírnár*.

Note on Somnāth.

History has given to the idol and temple of *Somnāth* a celebrity that none other of the places of Hindu worship can boast. The romantic account of its destruction given by FERISHTA, is the circumstance by which to this day MAHMUD GHAZNAVI's career of victory and bloodshed is most remembered—so much so that even MILL has condescended to borrow from that historian, the picturesque story of the image yielding to successive blows of the warrior king's battle-axe, till his zeal was repaid by the bursting of the idol's belly, and the discovery of the largest and most valuable jewels concealed within its cavity. The *Rozut oos-sufa*, a history of higher antiquity* and better authority than FERISHTA, gives an account of MAHMUD's expedition, which corresponds in the main particulars with that of FERISHTA, but omits this breaking of the image; nevertheless, as FERISHTA says the pieces were to be seen in his day at *Ghaznavi*, there can be no doubt the image was broken, and carried away as a trophy of the conquest.

The account of the idol and temple given by FERISHTA is evidently borrowed from the *Rozut oos-sufa*, of which the citation of SHEIKH FUREED OOD DEEN's couplet in explanation of the name *Somnāth*, is undeniable evidence. As this work may not be in every body's hands, it may be useful to insert an extract rendered into English, for comparison with the account of the same events which will be found in the first volume of Colonel BRIGGS's FERISHTA. The place besieged by MAHMUD GHAZNAVI must have been the city of *Patan*, the situation of which on the sea side, as described by Lieut. POSTANS, exactly corresponds with the description in both histories, though the name of the town was lost in the greater celebrity of the idol and its temple.

“*Somnāth* is the name for an idol which, according to the Hindus, was lord of all idols. But SHEIKH FUREED OOD DEEN UTAR, the poet, says, *Somnāth* is the name of a place, and *Lat* the name of the idol, for he has the following couplet :

یافتند آن بُت که نامش بود لات — لشکر محمود اندر سومنات

“Historians however agree that *Somnāth* was an idol in a temple situated on the sea side, which idol the Hindus worshipped, especially at times of eclipse. More than a lakh of people used to come to it on nights when the moon was under eclipse: and they believed too, that the souls of the deceased came to *Somnāth*, on first leaving the bodies they had occupied, and were there assigned to fresh bodies. They also believed that the sea worshipped *Somnāth*, and the rise and fall

* The *Rozut oos-sufa* was compiled by order of AMEER ULEE SHEER, between the Hijra years 900 and 902, A. D. 1444 and 1496.

of the tides was considered to be proof of this. From the most distant parts of India pilgrims used to come to worship at this shrine: 10,000 villages were assigned for its support, and there were so many jewels belonging to it, as no king had ever one-tenth part of in his treasury. Two thousand Brahmins served the idol, and a golden chain of 200 muns supported a bell-plate, which being struck at stated times called the people to worship; 300 shavers, 500 dancing-girls, and 300 musicians were on the idol's establishment, and received support from the endowment and from the gifts of pilgrims. The Ganges is a river to the east of *Dehlee* near *Kanouj*, which the Hindus believe to flow from heaven, and into which they throw the ashes of the burned dead, conceiving that by so doing the sins of their lives are washed away. Brahmins, drowning themselves in this stream, believe that they secure eternal beatitude. Distant as the river is from *Somnāth*, still there were pilgrims employed in continually bringing its water thither, so that the idol might be regularly washed with it.

"In Hejira 416 MAHMUD GHAZNAVI invaded India and destroyed all the idols; whereupon the Hindus said, that the idol *Somnāth* had in its anger caused their destruction, otherwise the destroyer would have perished. MAHMUD hearing of this, resolved to proceed against *Somnāth* itself, thinking that, when that most sacred image should be destroyed, the Hindus would more readily turn to Islam.

"On the 10th Shaban 416, (12th Oct. 1025,) the king moved with 30,000 mounted warriors, lightly equipped, to *Multan*, where he arrived in the middle of Ramzan, (Nov. 1025.) There, finding that between him and *Somnāth* lay a wide desert, without water or forage, he assigned to each trooper two camels, and besides loaded 20,000 camels with supplies and water. Having thus passed the desert, he came upon a country full of strong forts, (*Ajmeer*,) the holders of which mostly submitted; whereupon the king ordered the men to be put to death, and the women and children to be made captives, and he destroyed all the idols. Thence advancing, he came to *Bhuwara* (in FERISHTA *Nihurwala*), which was deserted by its chief and garrison, and MAHMUD establishing a depôt there, continued his march, destroying all the idols and temples as before, till he came to the neighbourhood of *Somnāth*, in the month of *Zeekāud*, (January, 1026.) There he found a strong fort on the sea side, so situated that the waves washed to the top of the battlements. The Hindus crowded the ramparts, expecting to see the Moosulman army destroyed by the idol god for its presumption. The next day the army approached the walls, and commenced the assault with such vigour, as the Hindus had never before seen. The

walls were soon cleared by the archers, and ladders being planted, the warriors mounted with the cry of 'ALLAH AKBAR.' The Hindus thereupon turned on the assailants and fought desperately, some fighting, while others went to the idol, and, prostrating themselves, prayed for victory. After fighting all day, the besiegers retired to their camp; but next morning they renewed the assault, and cutting off the heads of all who opposed them, penetrated to the temple of *Somnāth*. There the Hindus alternately prostrating themselves and renewing the battle, maintained themselves till night. Many of them were slain, and many attempted by embarking in vessels to effect their escape by sea; but MAHMUD, embarking part of his army, pursued them, and made great slaughter amongst the fugitives, thus completing his victory. The temple of *Somnāth* was supported by fifty-six pillars ornamented with rubies, emeralds, and other precious stones; each of these pillars bore the name of a different king of India as its embellisher. Fifty thousand infidels, and more, were slain round this temple, which was vast in dimensions, &c. &c." The history then proceeds with the arrangements after the conquest.

Lieutenant POSTANS, in his very interesting account of the present condition of this temple, seems to be of opinion, that he saw it as it was left by MAHMUD GHAZNAVI after his conquest in 416 Hejira or 1025-26 A. D. This, however, is not the case. Although the great image was broken and carried away, and perhaps all the carved images about the temple were industriously decollated or otherwise mutilated, still as MAHMUD left a Hindu prince of sacred character, called in the Persian histories DABISHLEEN, probably DEVEE SINGH, as his vicegerent at *Somnāth*, it is most probable that the temple was promptly, if not effectually, restored, for the sake of the revenue to be derived from its pilgrim tax. The poet SADI, who lived 200 years after MAHMUD, gives in his *Bostan* an amusing tale of his own adventures at *Somnāth*; it commences,

بَی دیدم از عَاج در سَومَنات — مَرصَع چو در جَاهِلِیت مَنات

"I saw an idol of ivory at *Somnāth*, jewelled like the idol *Mundt* in the days of superstition and ignorance," &c. The story is illustrative of the state of the temple, and of manners, and may therefore be told with advantage. SADI, wondering at the folly of live people paying their adoration to a material without sense or motion, ventures to express his sentiments to an attendant priest, with whom he has some acquaintance. The priest turns upon him in rage, and excites a commotion, which endangers SADI's life; whereupon he throws himself upon the

mercy of the chief priest, stating that, although he had ventured to express a doubt, it was merely because he desired conviction. The priest tells him he is a man of sense and judgment, and shall be convinced that this idol is superior to all others, and deserving of adoration. If he will abide in worship all night, he promises him to see the idol raise its arm in the morning in adoration. SADI consents, and gives an amusing account of the inconvenience he experienced from the pressure of the unwashed, unsavory crowd. Just before sunrise, the image, at the sounding of a bell, raises its arm, to the delight of the worshipping thousands. SADI assures the chief priest of his perfect conviction, flatters him and obtains his intimacy, till, finding an opportunity when the temple is empty, he gets behind the image, and there discovers a servitor concealed, with the rope in his hand for raising the idol's arm. The man runs, and SADI follows, trips him up and throws him into a well: then, to make quite sure, he drops heavy stones upon him, feeling that his own life would assuredly be sacrificed, if his discovery were known, and quaintly remarking *که از مرده دیگر نباید حدیث* "Dead men tell no more tales." He then hurries away from *Somnāth*, and returns to *Persia* through Hindustan, by a route of great danger and difficulty, the troubles of which he says he shall remember to his dying day.

Such is the story, and it shows the temple to have been restored, as a place of Hindu worship, after its destruction by MAHMUD, and to have remained as such, with something like its former renown, for 200 years after that conquest. It is evident, however, from its present appearance, that it has since yielded to other spoilers, and has even been converted at one time into a masjid. The minarets on each side of the principal entrance, are evidently Muhammadan, and the interior arches observable in the sketch No. LI. are also no part of the original Hindu fabric; but must have been erected at a much later date, to support the magnificent roof described by Lieut. POSTANS, in lieu of the fifty-six pillars adorned by fifty-six rājas, which were stripped, if not broken, by the destroyer of the 11th century.

The pundits say, that there is nothing in the *vedas*, *puranas* and other brahmanical text-books to illustrate the origin and history of the *Somnāth* temple. Its situation on the shore of the Indian ocean, and the corresponding temple of the sun in *Katak*, known as the Black Pagoda, and situated on a like promontory washed by the waves of the eastern sea in the Bay of Bengal, will not fail to strike the reader. And ASOKA's selection of rocks on the high road to each, for the promulgation of his edicts, would seem to indicate, that both enjoyed in his day a cor-

responding celebrity ; and that, through the resort of pilgrims, the approaches to them afforded the surest means of causing his doctrines and injunctions to be universally known.

In this number, we confine our observations to the *Somnāth* temple. The more valuable relics of *Gīrnār* must be reserved for more careful examination. Lieut. POSTANS' report and sketches of the rocks, and of the valley of *Junagarh*, will shew precisely the site and outward appearance of the natural tablets, upon which the edicts of ASOKA have been so carefully and so durably engraved. With that we must at present be satisfied. The examination of the facsimiles, and their comparison with the previous readings and printed version of this extraordinary inscription, will be the work of time : and unfortunately the drawings and facsimiles of Lieut. POSTANS reached Calcutta the very day after the discoverer of the key for decyphering this ancient character had taken his departure, in a state of health that prevented his giving close attention to any of his favorite pursuits. He had prepared every thing before his sickness, for the final comparison which was to be made on their expected arrival. He had already corrected the version, printed in preceding Numbers of this Journal so as to have completed, almost to his perfect satisfaction, the entire restoration and decyphering of this valuable relic of 20 centuries. It remained only to refer to the facsimiles for a few doubtful letters and passages ; this labour, which to him would have been the work, only of a few hours, will impose upon any other who undertakes it, the task of mastering the character and language of the inscription, and of remaking the collations *ab initio*. The facsimiles are in the museum of the Asiatic Society, and the learned and the curious are invited to their examination.

Since the above note was written Mr. KITTOE, who has kindly lithographed the sketches of *Somnāth* for the Journal, has favored us with the following note on its architecture.

NOTE by Mr. KITTOE on the *Architecture of the temple of Somnāth, as exhibited in plates XL. and XLI.*

Much pains do not appear to have been bestowed by the "Faithful" (who converted the temple of *Somnāth* into a musjid), to obliterate what still remained of its idolatrous features. The minarets and domes of the exterior, and the vousoir arches of the interior supporting them, seem to be the only parts of Moorish origin ; the pillars now occupying the interior of the fabric, and supporting the flat portions of the roof, most probably originally adorned the porches, or "Subhas" and colonnades, which, even in the present day, characterise some of the temples of Orissa and lower down the coast.

That part of the fabric, represented in plate L. as covered by domes and flat roofing, is most probably the multangular base of a once gigantic conical tower, like those of *Kanaruc*, *Jugunnath*, *Bhobaneswur*, and of many others in different parts of the continent of India. That shape was common to all *Brahminical* edifices, and is still adhered to in the present day.

The most curious feature is the perfectly Egyptian doorway, built within the original sculptured lintels apparent in the plate; this was probably constructed when the temple was restored, after its destruction by MAHMUD GHAZNAVI.

Plate LI. seems to represent the interior of an octagonal apartment beneath the principal dome, which appears to have been originally supported on eight pillars and architraves taken from different parts of the temple; these being subsequently found too weak to support its weight, arches appear to have been turned and built in beneath: the remainder of the roof, which seems to be supported by pillars of various shapes with brackets and plain architraves, the style of which is precisely the same as of those in the old mosques at *Jounpúr*, likewise constructed with the fragments of demolished temples. Many of the pillars there are elaborately sculptured; others again are perfectly plain, as represented in the plate before us for *Somnáth*; but the original pillars of MAHMUD GHAZNAVI's time may have been cased with gilt copper and jewels, for Colonel MACKENZIE in his papers, describes several columns thus adorned in the Carnatic.

The admixture of Moorish and Hindu sculpture and architecture, resulting from this practice of converting temples into mosques in the manner above described, gave rise to a style, which might well be termed "Indo-musjidy," for the proportions are as three of the former to one of the latter.

VI.—Population and Mortality in Calcutta.

We are indebted to the same anonymous contributor, who furnished Capt. HERBERT with the statement of protestant deaths, published in the *Gleanings*, vol. III. p. 88, for the enlarged table which we now present, and which, although it must necessarily be uncertain as a foundation for estimating the mortality of different classes, still, until we have a regular municipal record of the inhabitants of all conditions, classed by age, these results may be looked upon as a tolerable approximation to the truth. We will leave the compiler to make his own remarks on the Mortality table. The second table, or that of the population, appears to have been taken through the thanahs; and if the *Kháneh shumári* system be repeated every five years or so, we should think that the results compared would afford a good average.

Mortality among all classes in Calcutta for 20 years, but for the Native Population only 5 years.

Years.	Protestant burials.	Catholic burials, D. Rio.	Catholic burials, Bokoanah.	Greeks.	Armenians.	Indo-Armenians.	Native Christians.	Natives.
1817	216	313	169	4	10	3	..	
1818	272	211	159	2	20	3	..	
1819	275	284	158	..	23	3	..	
1820	281	282	136	..	17	1	..	
1821	246	277	172	..	16	3	..	
1822	324	294	140	..	16	2	..	
1823	270	277	156	..	10	2	..	
1824	278	282	188	..	21	1	..	
1825	297	285	154	1	12	10	..	
1826	275	309	145	2	19	17	..	
1827	254	308	174	..	15	16	4	
1828	256	250	170	2	15	12	3	
1829	184	209	146	3	12	16	2	
1830	224	236	138	1	14	15	..	
1831	186	236	122	3	17	19	8	
1832	217	269	121	1	17	16	1	
1833	302	289	204	2	23	14	5	Hindoos, 8299 Muslimans, 1019 Hindoos, 15138
1834	281	257	199	2	16	17	4	Muslimans, 2385 Hindoos, 11167
1835	233	233	115	1	7	16	4	Muslimans, 1900 Hindoos, 6873
1836	197	188	104	0	15	13	3	Muslimans, 1229 Hindoos, 6366
	5065	5288	3070	24	315	199	34	Muslimans, 1515
	20	20	20	12	20	20	—	55881
	24	264	153	2	154	10	9	5
Average,	253	264	153	2	154	10	34	11178

Statement of the average rate of Mortality per cent. among the different classes of inhabitants in Calcutta per census and Table of mortality.

Denominations.	No. of Inhabi- tants.	Total.	Average mortality p. annum.	Average mortality per cent.	
English,...	3138	7884	277	3½ pr. ct.	1 in 28
Eurasians,.....	4746				
Portuguese,	3181	3341	417	12½	1 in 8
French,	160				
Western Muhammadans, ...	13,677	59,622	1607	2½	1 in 36
Bengal Muhammadans,	45,067				
Moguls,	527	19,084			
Arabs,	351				
Western Hindus,	17,333	157418	9558	6½	1 in 16
Bengal Hindus,	120,318				
Mugs	683	49	3½	6½	1 in 14
Low Castes,	19,084				
Armenians,		636	25½	4½	1 in 25
Native Christians,		49	3½	6½	1 in 14
Chinese,		362			
Jews,		307			
Parsees,		40			
Madrassees,		55			

The great difference in mortality between the Hindus* and Muslims is striking, while the difference to be observed between the Portuguese, as compared with the English and the Eurasians, is equally so.

Here is much room for speculation, and it cannot be said that as yet we have as good means of getting correct information upon this subject as they possess in Europe: nevertheless, we may approach as near as we can to the point we wish to ascertain, and we may hope to improve in such statistical records.

The Portuguese, among whom so great a mortality is shewn, are a suffering race very subject to the catalogue of complaints enumerated in these papers; while the English and Eurasians are far more prosperous in life, and enjoy comforts and happiness in a very high degree, as compared with the former section of society. The mortality of the English and Eurasians 3½ per cent. per annum, while that of the Portuguese being 12½ per cent. is very great. In 1830 I ascertained, and published, in the *Gleanings of Science* the burials in Calcutta of Protestant Christians from the year 1820. To shew at that time, that although the European population must have greatly increased, yet, that the deaths and burials had not encreased, and now that the same population is acknowledged to have increased very materially indeed, yet we see upon referring to the first column of one of the tables, giving the Protestant burials, for the last 20 years, no increase of deaths. The years 1833-4, the two years following the sea inundations, shew the greatest mortality of late years; while among the native population those two years, shew an extraordinary mortality. The two last years shew in respect of both European and Native population that healthiness

* The difference of Mortality amongst the Muhammadans and Hindus may be accounted for by the circumstance that the Hindus of Calcutta consisting of families include a much larger proportion of Infant life. The same circumstance will explain the great difference between the average Mortality amongst the Portuguese and the Europeans of Calcutta.—ED.

is restored. The mortality among the other columns of society, the Catholic, Greek, Armenian, Hindu Armenian, and Native Christian, are for the last 20 years, and I believe them to be nearly correct. The Chinese and the Jews keep no account of their burials; I of course could not include them, and they form a minute portion of the population of this city.

Census of the population in the suburbs of Calcutta.

Names of Thanahs.	No. of Villages.	No. of Mehals.	Resident Hindu adults.	Hindu children.	No. of Hindus in service.	Resident Muslim adults.	Muslim children.	No. of Muslims in service.	Native lodgers or passengers.	European adults.	European children.	East Indian adults.	East Indian children.	Total inhabitants.
Thanah Sulkeah, ...	132	258	33,223	20,342	*8,106	12,154	4,395	*2,019	3,153	43	24	63	49	73,446
Ditto Chitpore,	8	33	14,177	5,286	984	1,627	601	199	875	23	7	53	1	22,650
Ditto Manicktulah,	31	42	20,627	6,173	30,100	13,201	9,661	3,098	3,883	441	67	759	123	54,935
Ditto Tazeeraut,...	29	84	22,032	5,349	1,120	8,601	2,755	647	5,072	54	15	45	27	43,950
Ditto Nowhazaree, ..	1	28	8,465	2,689	799	5,845	2,214	987	2,818	63	3	50	65	22,212
Grand Total,...														2,17,193

* These columns are not included in that of the total.

VII.—*Report on the Weights, Measures, and Coins of Cabul and Bukhara.* By NOWROZJEE FURDOONJEE. Forwarded by Captain BURNES to Government, and transferred to the Asiatic Society.

Now that, happily for the interests of British and Indian commerce, a more intimate and extensive intercourse is about to commence with countries adjoining to India, the following humble attempt to simplify and accurately describe the weights, measures, and coins of *Cabul* and *Bukhara* will not, it is hoped, be thought without use; the more so, since the subject has been hitherto left untouched by European merchants and travellers, though a knowledge of it is indispensable to the scientific and commercial world.

OF CABUL WEIGHTS.

General commercial or gross weight.

6	Nukhods	= 1	Shahee.	
4	Shahee	= 1	Miscal.	
20	Miscals	= 1	Khoord, or Seer i Tabrez.	
4	Khoord	= 1	Pow or Powee.	
4	Powee	= 1	Charuk.	
4	Charuk*	= 1	Seer.	
*2 $\frac{1}{2}$	Charuck or	} = 1	Mun i Tabreez.	
	40 Khoord			
8	Seer	= 1	Munkhanee.	
10	Munkhanee	= 1	Khurwar.	
6	Munkhanee	= 1	Camel load.	
4	Ditto ditto	= 1	Mule or poney load.	} Not being of a fixed proportion these are given on an average.
3	Ditto ditto	= 1	Ass load.	

There are two different muns in use at *Cabul*, viz. :—

1st. The *Mun i Tabreez*, which is equal to 2 $\frac{1}{2}$ charuks of this country, or = 9 lbs. 10 oz. 160 grs. troy.

2nd. *Mun i Khanee* which is equal to eight seers of this country, or = 126 lbs. 2 oz. 320 grs. troy.

The maund of India is unknown, and the mun of *Tabreez* is evidently that introduced from Persia, where it is universal.

The seer is also of three varieties and denominations, viz. 1st. One *seer i cabul*, which is equal in weight to 504,888 Bombay rupees or tolas, being found by actual experiment to contain 90,880 grs., or = 15 lbs. 9 oz. 160 grs. troy. In like manner I found the miscal to weigh exactly 71 grains. The latter being the unit of the ponde-

rary system of Afghanistan and Tartary, I have preferred it for my standard by which all the other weights are ascertained with the utmost precision. There are 1280 miscals in a *Cabul* seer.

2nd. *Seer i Tabreez*, which is only the 16th part of a charuk or 20 miscals = 2 ounces and 460 grains troy.

3rd. *Seer i Hindustan*, or that introduced from India.

4th. Chooraiika are foreign measures, and not much used.

I. The commercial weights of *Cabul* as compared with British and Indian weights.

Cabul weights & their denominations.	Value in British avoirdupois weight.			Value in Indian weights. Bombay and Guzerat.					
	lbs.	oz.	grains.	mds.	seer	tola	masha	ruttee	dhan.
1 Nukhoad, ...	0	0	2.958	0	0	0	1	2	315
1 Shahee, ...	0	0	17.750	0	0	0	1	1	1.891
1 Miscal, ...	0	0	71.000	0	0	0	4	5	3.466
1 Khoord or seer, Tabreez, ...	0	3	107.187	0	0	7	10	5	1.320
1 Pow or Powee, ...	0	12	428.748	0	1	3	6	5	1.280
1 Charuk, ...	3	3	402.062	0	4	14	2	5	1.120
1 Seer, ...	12	15	295.312	0	18	0	10	5	480
1 Mun Khanee, ...	103	13	175.000	3	24	7	1	0	3.840
1 Khurwar, ...	1038	6	0.000	36	2	14	11	1	2.400

Besides giving the equivalent of the native weights in British Avoirdupois weight I have, in the above and other succeeding tables, endeavoured to draw a comparison with the Indian weights, particularly those of Bombay and *Guzerat*, which might if required, be easily converted into Bengal weights by the following relation.

<i>Bombay and Guzerat.</i>	<i>Bengal.</i>	<i>British.</i>
3 Maunds,	1 Mun or Standard Maund, }	= 34 lbs. av. or $\frac{3}{4}$ cwt.

2857 Seers, = 1 Seer of 80 tolas, = 2057 lbs.

The tola = 180 grains is uniform in all the presidencies.

Goldsmith's or Jeweller's weight.

4 Pa	= 1	Nukhoad.
6 Nukhoads	= 1	Shahee.
4 Shahee	= 1	Miscal.

* This is used chiefly by Hindu grocers in *Cabul* in purchasing Indian Commodities.

II. Jeweller's weight compared with Indian & English Troy weights.

Cabul weights.		Indian weights.			English Troy weights.
		Mashas, ruttees, dhans.			grains.
1 Pa,	...	0	0	1.578	0.739
1 Nukhoad,	...	0	1	2.315	2.958
1 Shahee,	...	1	1	1.891	17.715
1 Miscal	...	4	5	3.466	71.000

MEASURES.

Cloth Measure.

4 Khoord	= 1	Gheerah.
4 Gheerahs	= 1	Charuk.
4 Charuks	= 1	Guz.
4 Pow	= 1	Charuk i guz.

III. Cloth measure compared with English and Indian measures.

Cabul measures.		Indian guz.		English inches.
		Guz.	Tussoos.	
1 Khoord,	...	0	0.562	0.632
1 Geerah,	...	0	2.250	2.531
1 Pow,	...	0	2.250	2.531
1 Charuk i guz,	...	0	9.000	10.125
1 Guz i Shah,	...	1½ or 36		40.500

This guz is called *guz i shah* because it was introduced by AHMED SHAH. It is used for measuring all sorts of cloths, goods, &c., and is also employed by tailors in their use. It is equal to $1\frac{1}{2}$ guz of Bombay and *Guzerat*, and measures $40\frac{1}{2}$ inches English.

Carpenter's or Timber Measure.

4 Moeebur (hair's breadth)	= 1	Rujja.
4 Rujja	= 1	Payen.
4 Payen	= 1	Teereea.
3 Teereea	= 1	Tussoo.
6 Tussoo	= 1	Charuk.
4 Charuk	= 1	Guz i maimar.

This guz is used by carpenters, bricklayers, and masons, and for timber measuring.

IV. Timber measures of *Cabul* compared.

Cabul Measures.	Indian Measure.		English Inches.
	Bhay Guz	Tussoos.	
1 Moeebur, ...	0	0.019	0.021
1 Rujja, ...	0	0.076	0.085
1 Payeen, ...	0	0.305	0.343
1 Teereea, ...	0	0.407	0.458
1 Tussoo, ...	0	1.222	1.375
1 Charuk, ...	0	7.333	8.250
1 Guz i Maimar, ...	1	5.333	33.000

There are only two kinds of *guz* in *Cabul*, viz. the *guz i shah*, and *maimaree*, the former, as already stated, measuring $40\frac{1}{2}$ inches, and the latter 33 inches English.

Measures of Capacity.

These are the same as the weights, there being no separate kind of measures for liquids nor for coin.

Land Measure.

This includes both linear and square measure.

3 Kudums	= 1 Biswa.
20 Biswas or 60 paces	= 1 Jureeb = also 20 Guz i Shah.
66 Jureeb*	= 1 Kroh or Kos.
12 Kos	= 1 Royal Munzil or day's journey.

These measures are uncertain, not being fixed to any permanent standard: they vary in many parts, cannot be precisely ascertained, and must not therefore be depended upon. However, the following comparison may give some idea, and convey a pretty good conjecture as to their extent:

1 Biswa	= $3\frac{1}{2}$ or 4 feet.
1 Kudum	= $1\frac{1}{4}$ or $1\frac{1}{3}$ to ditto.
1 Jureeb	= 70 or 80 feet.
1 Kroh or Kos	= 2 miles*.
1 Munzil	= 24 miles.

Taking 14 or 13 inches for one *kudum*, three of which are said to be

* The assumption of two miles for the *kos* gives 66 *jureeb*s of 80 feet, but this is too much for the ordinary *kos*.—ED.

equal to one *guz i shah*, the *jureeb* is about 60 or 70 feet square, or, if measured by the *guz i shah*, it comes to 67 feet, and as a last resource : taking a medium of all these results, we have one *jureeb* = 70 feet square.

COINS.

8 Kourees	= 1	Kusseera.	} Copper.
4 Kusseera	= 1	Pysa, (pookhta.)	
2 Ghuz	= 1	Ditto.	
5 Pysa	= 1	Shahee.	} Formerly silver but now imaginary.
2 Shahee	= 1	Sunwar.	
2 Sunwar	= 1	Abassee.	
3 Abassee or 12 shahee	= 1	Rupee.—Silver.	
7 Rupees	= 1	Tilla.	
6 Rupees	= 1	Boodkee or ducat.	} Gold coins.
15 to 18 Rupees	= 1	Ushurfee or mohur.	
20 Rupees	= 1	Toomân, (an imaginary money like the Kory of Bombay.)	

The rupees and pice are either *kham* or *kucha*, or *pookhta*, i. e. *pukka*, and where the former is not specified, the latter is always to be understood. Their rates are as under.

6 Pookhta rupees	=	7 $\frac{1}{4}$ Kham rupees.
6 Pysa khawm	=	1 Shahee, or
72 Ditto	=	1 Rupee.

The Tooman i khawm is worth 18 $\frac{1}{3}$ rupees.

In the time of SHAH SHOOJA and ZUMAN SHAH, there were six pice *pookhta* current in a *shahee*, or 72 pice in a rupee, but they have been lessened to 60 in a rupee by the present Ameer. The rupees have also been reduced in weight by the present ruler, for Shah Zumanee rupees now bring 14 *shahees* in the bazar. At present there is no silver coin of lower denomination than a rupee; but in the time of the late monarchs of Afghanistan, the *abassee*, *shahee* and *sunwars* were of silver. They are not coined any more.

V. A general Table of *Cabul*, Indian and English Monies and Exchange, showing the produce of the former country's currency in Company's rupees at the present rate of exchange, i. e. 117 *Cabul* rupees for 100 of the E. I. Company: and in pounds and shillings sterling, at the commercial par of exchange, viz. 1 shilling 11.51 pence per 1 Bombay rupee, or 195 shillings per 100 Bhay Rs.

Cabul Currency.	Metal.	Rate per Rupee.	Value in Indian currency Company's.			Value in British Currency.			Weight in grains.
			Rs.	As.	Pies.	£	s.	d.	
1 Kouree, ..	Shell,	1920	0	0	.083	0	0	.010	
1 Kuseera, ..	Copper,	240	0	0	.671	0	0	.083	35
1 Ghaz, ..	Ditto,	120	0	0	1.342	0	0	.166	70
1 Pysa, ..	Ditto,	60	0	0	2.685	0	0	.333	142
1 Shahee, ..	Silver,	12	0	1	1.425	0	0	1.666	15
1 Sunwar, ..	Ditto,	6	0	2	2.850	0	0	3.333	30
1 Abbasee, ..	Ditto,	3	0	4	5.700	0	0	6.666	60
1 Rupee, ..	Ditto,	1	0	13	8.102	0	1	8.000	147
1 Tilla, (7 Rs.)	Gold,	14285	5	15	8.717	0	11	9.097	71
1 Boodkec, ..	Ditto,	per 0-0 Rs.							
(6 Rs.) ..		16,666 Rs.	5	2	.615	0	9	0.048	525
117 Cabul Rs.			100	0	0	9	15	0	
100 Ditto, ..			85	7	6.226	8	6	8.880	

The old *Heratee* and *Shah Zumanee* rupees (out of currency now) coined at *Herat* and *Cabul* respectively in the years 1214, 1216, and 1217 A. H. weigh each $2\frac{1}{2}$ miscals or 178 grains, being only two grains less in weight than the present Bombay and Madras rupees of one tola. They contain five grains of alloy. The present *Cabul* rupee weighs 147 grs. and contains the same quantity of alloy though it is less in weight than the former.

OF BUKHARA WEIGHTS.

$4\frac{1}{2}$ Miscals	= 1 Tola.
20 Tolas	= 1 Pow.
2 Pow	= 1 Neemcha.
4 Neemcha	= 1 Charuk.
4 Charuks	= 1 Dooneemsur.
2 Doneemseer	= 1 Poot or Pood, (Russian.)
16 Ditto	= 1 Mun of Bukhara.

This is the general commercial weight of *Toorkistan* or *Tartary*. The *pood* is a Russian weight used at *Bukhara* in purchasing Russian commodities. The *tola* obtains currency in *Bulkh*, *Khulum* and *Kunduz*, where it is employed in weighing tea, wax, silk, and grocery. In *Bukhara*, grains, flour and such other bulky articles are weighed by the mun—meat, butter, milk, &c. by the *charuk*; while sugar, fruit, ghee, &c., &c., are weighed by the *neemcha*.

VI. Table of the weights of *Bukhara* compared with those of *Cabul*, England and India.

Bukhara.	Cabul.	English Avoirdupois weight.			Indian.				
		lbs.	oz.	drs.	Mun	seer	tola	masha	ruttee.
1 Mun, ..	$21\frac{1}{2}$ Seers,	278	12	0	12	24	24	11	1.440
1 Doneemseer, ..	$1\frac{1}{2}$ ditto,	17	6	12	0	31	15	6	5.590
1 Neemcha, ..	5 Khoordor or 100 miscal	1	1	$6\frac{1}{2}$	0	1	27	2	5.349
1 Charuk, ..	5 Pow,	4	5	11	0	7	24	10	5.397
1 Pood, ..	$3\frac{1}{2}$ Seers	34	13	8	1	23	3	1	3.180
1 Tola, ..	$4\frac{1}{2}$ Miscals,	0	0	6905	0	0	1	8	2.424
1 Pow, ..	$2\frac{1}{2}$ Khoord,	0	8	11,375	0	0	27	7	2.674

MEASURES.

Cloth Measure.

4	Pow	= 1	Charuk	= 7	Ditto.
4	Charuk	= 1	Alcheen	= 28	Inches.
2	Alcheen	= 1	Kolach	= 56	Ditto.

By the *kolach*, *chintz*, *kurbas*, and other cloths are measured. The *Alcheen* is a Russian measure.

Land Measure.

At *Bukhara*, in lieu of the *jureeb*, another measure called the *tuntab*, 70 paces square, is used in measuring lands, and for long distances the *sung* or measure of three coss, or six miles, is employed in use.

COINS.

Money Tables.

11	Poole Seeah	= 1	Meere.
45	Do. or 4 Meeree	= 1	Tunga.
21	Tungas	= 1	Tilla.
17	Tungas	= 1	Boodkee or Ducat.
3	Soum (roubles)	= 1	Tilla.

VII. Table of the relative value of *Bukhara*, *Cabul*, English and Indian monies at the commercial par of exchange.

Bukhara.	Metal.	Weight in grains	Cabul.			English.			Indian currency.		
			Rs. Shahees P.			£	s.	d.	Rs.	As.	Pie.
1 Pooli Seeah,	Brass,	.....	0	0	22	0	0	.144	0	0	1.248
1 Meeree, ..	Silver,	11	0	1	0	0	0	1.588	0	1	1.729
1 Tunga, ..	Ditto,	48	0	4	0	0	0	6.355	0	4	9.913
1 Boodka*	..										
ducat, ..	Gold,	525	6	0	0	0	9	.048	5	2	.615
1 Tilla*, ..	Ditto,	71	7	0	0	0	11	9.097	5	15	8.717
1 Soum*, ..	Silver,	426	2	4	0	0	4	6.848	1	15	9.904
1 Yamoo*, ..	Ditto,	4 lbs. 4 drs. and 8 grs.	195	0	0	16	5	1.920	166	10	8.000

In *Kunduz*, *Bulk*, *Khooloom*, &c. the currency is exactly as above stated, with the exception of an additional coin, the rupee (*Mahomed-shaee*), which also obtains currency there. It is larger than the *Cabul* rupee and exactly of the size of old *Heratee* rupee, weighing on an average 180 grains, or one tola of India. One hundred *Koon-doozee* (*Mahomedshahee*) rupees are equal to 118 or 120 *Cabul*

* For further particulars regarding these coins consult my paper on the Russian articles brought to *Cabul*.

rupees. They may therefore be stated to be at par with the Company's and with *Nanukshahee* rupees. In the same places a kind of brass coin of a very inferior value, called *poochhuk*, is also current; four of which are equal to a *pooli seeah*. No rupees are current in *Bukhara*.

OF PESHAWUR.

To the weights, measures and coins of *Cabul* and *Bukhara* those of *Peshawur* may also be added, as that district formed lately part of the *Cabul* dominions, from which it is at present dismembered by the Sikhs. Besides being situated near the *Indus*, *Peshawur* is considered a great mart of commerce.

WEIGHTS.

The weights of *Cabul* current here during the monarchy have now fallen into disuse, and those of *Lahore* have been substituted in their room by the conquerers. The seer which weighs 102 rupees *Nanukshahee*, of $2\frac{1}{2}$ miscals, each is equivalent to 2 lbs. 9 oz. and 6.147 drams avoirdupois. The other denominations are :—

			lbs.	oz.	drs.	
1	Munkhanee	= 40 Seers	= 109	1	13	English.
16	Chitah	= 1 Seer	= 2	9	6147	
96	Tolas	= 1 Ditto	=		Ditto.	
6	Tolas	= 1 Chitah	= 0	2	9384	

Jeweller's Weight.

The jewellers here use the same weight as in *Cabul*, such as the *miscal*, *nakhod*, &c. which are the same in value.

Goldsmith's Weight.

The goldsmiths employ the following in weighing gold, silver, coins, &c. &c.

8	Ruttees	= 1	Masha
12	Mashas	= 1	Tola.

This is purely Indian weight and recently introduced from *Lahore*. The *tolas*, *ruttees*, &c. are nearly of the same value as those of India.

Cloth Measures.

The *guj i shahi* of 40 inches and *Peshawuree guz* of 32 inches were current formerly for measuring all sorts of cloths, but they have been recently supplanted by the *guz i akali* of the Sikhs. It is equal to 37 inches English and subdivided into 16 *geerahs*.

COINS.

The currency of *Peshawur* was formerly the same as that of *Cabul*; but since the conquest of it by the Sikhs, the money system has undergone a great change and become more intricate on account of the introduction of foreign coins, such as the *Nanukshahee*: *Nou Nihal-Singhee* and other rupees. The present money system is described as under.

Money Table.

4	Kourees	= 1	Gunda.
8	Ditto or 2 Gundas	= 1	Adhee.
2	Adhees	= 1	Dumree.
2	Dumrees	= 1	Adhèla.
4	Ditto or 2 Adhelas	= 1	Pysa.
4	Pysa	= 1	Shahee of commerce.
3	Pysa	= 1	Anna ditto.
16	Anas or 84 Pysas	= 1	Rupee Peshawuree chulnee of commerce.

The different kinds of rupees current in *Peshawur*, with their weights and relative values, are as follows:—

1st. *Nanukshahee* rupee produces in *Peshawur* 24 Peshawurree annas and weighs 170-172 grains.

2nd. *Nou Nihal-Singhee* rupee, ditto 18 annas, weight 124-130 grs.

3rd. *Huri-Singhee* rupee, ditto 15 annas, weight 170 grs.

4th. *Peshawuree chulnee* or of commerce, ditto 16 annas.

5th. *Cabul* rupees, or of commerce, ditto 21 annas, ditto 147 grs.

The *Nanukshahee* rupees are at par with the kuldar or Company's rupees.

113 *Cabul* rupees are equal in currency at *Peshawur* to 100 *Nanukshahee* rupees.

122 *Peshawuree* rupees, ditto ditto to 100 ditto.

133 *Nou Nihal-Singhee* rupees, ditto ditto to 100 ditto.

160 *Huri-Singhee* rupees, ditto ditto to 100 ditto.

Lahore, 10th July, 1838.

VIII.—*Ancient Inscriptions.*

I.—The first inscription of which we are about to give an abstract translation, has been obtained and communicated by Rāja DHARMA VENKATA ASWA RAO, who has been for some time in *Calcutta*, to urge on the supreme government of India his claim to the gadi of the raj of *Paluncha*, or *Kummummét*, which through some recent arrangements of the Nizam's government has been assigned to a rival claimant. The inscription is stated to be engraved on a slab about six or seven feet high, which is to be found close to the temple of RUDRADEVA at *Warangal*, the modern name for the ancient capital of the Telingana rājas, called in this inscription *Arunakunda-pura*, or *patana*. The inscription, that is its commencement and close, excluding the Sanskrit slokas, is in an old dialect of mixed Telugu and Oorya. It is valuable as containing the genealogy of rāja RUDRADEVA, and as showing that the previous dynasty established at *Warangal*, was overcome, and displaced by his father called PROLI rāja. The inscription gives an authentic date also for the reign of RUDRADEVA in Telingana, viz. 1054 Saka, corresponding with 1132 A. D., and shows this to be the rāja, called in the temple annals of *Jagannath*, CHURANG, or CHORGUNGA, who is said to have overrun *Katak*, coming from the *Carnatic*, and to have founded or established the *Gunga-vansa* dynasty, in the very year of this inscription, viz. 1054 Saka. Raja RUDRADEVA is mentioned as a benefactor of *Jagannath*, and *Katak* is included in the boundaries which are assigned to his dominions at that period. These are described in the inscription, as extending as far as the sea to the east; the *Sree Saila*? mountains to the south; as far in another direction, which must be west, as *Bakataka*; while to the north, his rule extended as far as the *Malyavanta*, now perhaps the *Malyagiri*, mountain, west of *Baleswar*.

The inscription commences thus :

“The rāja RUDRADEVA, who obtained the five high titles, and was sovereign of *Arunakunda-pura*, king of kings, and lord of all things, virtuous, and fortunate, of the *Kākali* race, established the three *Devatas*, *Rudreshwara*, (after his own name,) *Basudeva*, and *Suriyadeva*, in *Arunakunda-patana*, his capital city, for the continuation and spread of his dominion, in the year of Saka 1054, and in the year *Chitrabhanu* of the *Vrihaspati Chakar* or 60 years cycle of Jupiter on the 13th of Magh, a fortunate Sunday.”

Then follow three slokas, the first in praise of HARI, the second of GANESHA, the third a prayer to SARASWATI. The 4th sloka commences the genealogy of RUDRA NARESHWARA as given by ACHINTENDRA

VARA son of SRI RAMESHWARA DIKSHITA of the BHARADWAJA race.

The 5th sloka mentions rája TRIBHUVANA, a great warrior, to be the first ancestor: he was of the *Kákalya* race.

The 6th names MALA DEVA as chief of the *Kákalya* rájas, and a zealous worshipper of SHIVA, but does not mention what relationship he bore TRIBHUVANA, it is presumed he was the son.

The 7th sloka names PROLI rája as the son of MALA DEVA, a successful and illustrious king. The four following slokas allude to some of his principal achievements. First that he reduced GOVIND rája, king of *Tailapa*? gave back his kingdom to the king of *Erha**; conquered and branded the founder of *Nádha*? in *Mantra-kutnagar*, and because the *Erha* rája declined to join in the expedition, expelled him afterwards from his ráj.

(Sloka 12.) "What shall I say of the victorious PROLI rája, through whom the ruler of *Arunakunda* (*Varangal*) with its many districts was first awed into imbecility, till, taking this rája into his service, he was soon after expelled from his wide dominions."

Sloka 13 describes the chief ranee of PROLI rája, by name MUPAMA DEVI the mother of RUDRADEVA, whose praises follow in sloka 14.

Sloka 15 mentions RUDRA'S victory over DOMA, a chief whose power lay in cavalry, and 16, his checking the rája MERHA? and plundering the *Pola*? country.

17 to 21, describe the ascendancy gained by BHIMA rája (half brother of RUDRADEVA), consequently upon the death of the *Gokurna* rája, the *Chorhádaya* rája, and the king of *Tailapa*; that, inflated with these successes, he ventured to defy RUDRADEVA, who thereupon made preparation to meet him, (sloka 22.)

Slokas 23 and 24 describe the awe inspired by these preparations; 25, the burning of the town of *Vardhamána*†.

26 The rája BHIMA flies in terror with his family.

27. Is pursued by RUDRADEVA and the town of *Chorhadaya* burnt.

28. A large tank excavated there.

29 and 30. In praise of RUDRADEVA'S prowess.

* The pundits say this is not *Orissa* which always in the old dialects is written *Oordha Des*.

† This name might lead to the supposition that rája RUDRADEVA had advanced as far north as *Burdwan*, but *Choradaya* is said to be *Tanjore*, which shows that the dominions of BHIMA rája lay to the south: the *Vindhya* mountains are indeed mentioned as the northern boundary of this rája's dominions.

31. The rája BHIMA, whose territories lay between *Kanchi* (*Conjeveram*), and the *Vindhya* mountains, sues for protection.

32. Praise to RUDRA, who adorned and populated *Jagannath*.

The succeeding ten slokas are continuations of this praise in a very florid style.

43. Mentions *Arunakunda* (*Varangal*) as rája RUDRA's capital, and for three slokas the praises of that city are given; then follow two slokas in praise of the king's horses, and last comes the following description of his kingdom, in the old mixed Telugu and Oorya dialect.

"His kingdom is bounded on the east by the salt sea, on the south by the *Sree-Saila* (mountains). His royal Lakshmi extends as far as *Bākataka*; and on the north she reaches the mountain *Malyawantā*."

"This king endowed this place named *Madichetapa Nilāma Khetaka*, that it might long remain undestroyed, for the worship of MAHESWAR, RAVI SOURI (VISHNU), in evidence of his royal duty to the gods."

प्रतापरुद्रवंशावलिः ।

स्वस्ति श्रीविजयश्चाभ्युदयश्च भवतु । समधिगत पञ्चमहाशब्दमण्डले
 श्ररानुमकोणपुरवरेश्वर परममाहेश्वरपतिहितचरितविनय विभूषण
 श्रीमन्महामण्डलेश्वरकाकतीयरुद्रदेवराजुलविजयराज्यमुत्तरोत्तराभिवृ
 द्धिप्रवर्द्धमानमाचन्द्रतारार्कमुगा अनुमकोणपट्टणमुनन्दु सुखसत्कथा
 विनोदम्बुनराज्यं बुक्षेयुचुनुड शकवर्षं वुलु १०५४ अगुनेटिचित्रभानुस
 वत्सर माघशुद्ध १३बङ्गवार मुनाडु तनपेर रुद्रेश्वर मनु श्रीवासुदेव
 श्रीसूर्यदेवरनुप्रतिष्ठ सेयिष्वे श्लोकः । यस्योत्तुङ्गतरङ्ग ताडित वियत्
 सप्तार्णवीयंजलं पादाङ्गुलनखाग्रजघ्नमभवद्भूमण्डलोद्धारणे । दंष्ट्राकोटि
 कुटीर कोटरगतं चैलोक्यमब्बिन्दुवद्ब्रह्माण्डादिव रोमकूपविवरे
 वन्दे वराहं हरिं ॥ १ ॥ श्रीहेरम्ब विलम्ब कुन्तलमिलनमल्लीदलत्
 कुद्वलब्रातोच्चृम्भितगन्धुलम्बमधुपब्रातोत्सबस्यास्पदः । स्फीतप्रीतमना
 भवत्वमिहमे दिग्दन्तिदन्तद्युति प्रोद्धामोद्यतनैकविक्रमलसद्गन्ताति
 कान्त्याश्रय ॥ २ ॥ मातेव दुग्धलहरीभिरुदञ्चतीव दुग्धोदधेरमृतवीचि
 विनिर्मलेव श्रीखण्डपिण्डपरिपाण्डुरपुत्तलीव बक्त्रेवसत्वविरतन्तुसरस्वती
 नः ॥ ३ ॥ भारद्वाज कुलश्रियः परिहृष्टः श्रौतक्रियाकर्म्मठः श्रीरामेश्वर

दीक्षितो जनयिता यस्यक्षितावग्रणीः । सो चित्थेन्द्रववोद्ययोऽत पते
 शिष्योयते शूद्रया श्रीमद्रुद्रनरेश्वरस्य सुमतेव्वंशाबलिं वर्णये ॥ ४ ॥
 श्रीमन्निभुवनमल्लो राजा काकल्यवंशसम्भूतः । प्रवलरिपुवर्गनारी वैधय्य
 विधायकाचार्यः ॥ ५ ॥ श्रीकाकल्यनरेन्द्र वृन्दतिलको वैरीन्द्रहृत्तापकस्तत्
 पात्रे वसुदायकः प्रतिदिनं कान्तामनोरञ्जकः । दुष्कान्ताचयद्रूषकः
 पुरहर श्रीपादपद्मार्चको न्यगमूतीकृतनायकस्त्रिभुवने श्रीमल्लदेवो बभौ
 ॥ ६ ॥ तत्पुत्रः शिवपादपद्मयुगलध्यानामृतानन्दभूर्लुण्ठाको रिपुसुन्द
 रीजनमहासौभाग्यसम्पत्त्रियः । प्रोलीराज इति प्रसिद्धिमगमदैरीन्द्रद
 र्पापहा निशूङ्गप्रधनप्रबन्धनमहाहङ्गारलङ्केश्वरः ॥ ७ ॥ हस्त्यारोहण
 कर्मकर्मठगतिं चोलाख्यचूडामणिं शश्वद्युद्धनिबन्धसङ्गरमतिं युद्धे बबन्ध
 क्षणात् ॥ ८ ॥ श्रीमत्तैलपदेवमम्बुदनिभस्तम्बेरमस्यं क्षणात् प्रख्यातो रिपुक
 ण्ठखण्डनविधौ भक्तानुरागाज्जहौ । यो कुण्ठारिपतेरकुण्ठपरशुस्तीक्ष्णा
 यधारोल्लसद्धारपातनिपातनैकचतुरं गोविन्दराजाङ्गयं ॥ ९ ॥
 वद्वान्मुच्यतमैडय चितिभूते राज्ञं ददौ लीलया लुण्ठाको विषयस्यतस्य समरे सद्दीर

दीक्षा गुरुः ॥

कुङ्गेनोद्धत मन्त्रकूटनगरी नाधोदयोनिस्तपो गुण्डः खण्डित
 एव मुण्डितशिराः क्रोडाङ्गवत्क्षयलः । एडोडिभक्तवत्पलायनपरो
 चातोगतस्त्रां पुरीमाहृतोपि नृपेश्वरस्य पुरतः प्रैलेन युद्धापयत् ॥ ११ ॥
 अन्यश्चानुमकोण्डनामनगरीं संवेष्ट्य योयंस्थितो नानामण्डलिकान्वितो
 भुवि जगद्देवस्य देवप्रभः । स्तब्धस्तम्भित एव कार्य्यकरणे शक्तः क्षणात्रि
 र्गतं शूरीमत्प्रोल्लसत्स्य तस्य जयिनः किं ब्रूमहे गौरवं ॥ १२ ॥
 देवीमुप्यमनामधेयसहिता यस्यागुणांस्तारकाः कीर्त्तिः शारदचन्द्रिकेव
 विलसत्कान्तेस्तु नैवोपमा । कौशल्येव च जानकीव च सती कुन्तीव
 पद्मा च सा पौलोमीव च चन्द्रिकेव च वरा तस्याभवद्भामिनी ॥ १३ ॥
 तस्यास्तस्य सुतोजनीह परमानन्दैककन्दाङ्कुरः कामः किं नलकूवर
 शिवसुतःस्कन्दो जयन्तोऽथवा । जिह्मवृक्षधरोऽथवा हरिरयं
 दक्षौकुमारौ स तौ भक्तशूरीगिरिशे हिताय जगतशूरीरुद्रदेवोऽनृपः ॥ १४ ॥

प्राद्यत्तुङ्गतुरङ्गपुङ्गवचयारोह क्रियाकर्मठं डोमं चारुपराक्रमक्रमभरं
 भङ्क्तासक्तलीलया । कण्ठं पार्थ इवाजरैः प्रहृतैर्विद्राव्य विद्राव्य यो लेभे
 सर्वविशेषयुक्तनगरग्रामं स रुद्रो नृपः ॥ १५ ॥ इडेमेडविडम्बिडम्बर
 भरक्षोदक्षमं क्षाम्भतां दुर्वारोद्गुरवीरमन्त्रसमयादानैकदीक्षागुरुं ।
 श्रीमन्मैलिगिदेवसङ्गसमयप्रोद्भूतदर्पापहं प्राप्तश्रीपोलवासदेशे विभवं
 श्रीरुद्रदेवं सदा ॥ १६ ॥ भीमेन भीमेनकुलेन कुलेन हीनो यस्तोममार
 गृहमूषकवत् क्षणेन । मार्ज्जार डिम्भकवरेण महान्धकारे गोकर्णना-
 मभुज गो भुवि श्रूरमानी ॥ १७ ॥ श्रीमद्रुद्रपराक्रमोद्भवभयव्या-
 मोहनास्योत्तसञ्चस्तत्रस्तसमस्तगोत्रविलसच्चोडोदयक्षाम्भतः । उन्मत्ता
 इव विस्मृता इव महाभूताभिभूता इव प्रोद्भून्ता इव संकुला इव
 तदा प्राणाः प्रयाता दिवं ॥ १८ ॥ यातेऽपि तैलपटपे दिवमस्य
 भीत्या सर्वातिसारकवलीकृतगात्रयष्टौ । श्रीरुद्रदेवन्तपतेः पृथु
 विक्रमस्य भीमोऽपि राज्यपदवीं क्षणिकां स लेभे ॥ १९ ॥ एको जम्बु
 कडिम्भको लघुतरैस्संवेष्टितो जम्बुकै राजाहङ्कृतिधिकृतक्षिति
 तलसिंहेन संस्पृष्टते । भेता लाकुलगर्जितैर्मुखरयन् सर्वा दिशो
 बिङ्गलो यातः कापि स एव धूननभरैः कण्ठीरवस्यातुरः ॥ २० ॥
 तद्वद्भीमन्तपाधमो नरपशुर्मातुस्सपत्नीसुतो हन्ता भ्रातृवरस्य भोजन
 विधौ भीमेन संस्पृष्टते । आकाशग्रसनप्रयासनिरतश्श्रीरुद्रदेवेन यत्
 स्पृष्ट्वावर्द्धितगर्वपर्वतमहाष्टङ्गाग्रमारोहते ॥ २१ ॥ श्रुत्वा भीम
 नृपस्य राज्यविभवं चारैश्च दुस्तेष्टितं श्रीमद्रुद्रनरेश्वरोऽयविजयप्रारम्भ
 सम्भारभाक् । यातोजातरिपुस्समग्रपृतना मेलारुणो योजितः
 सद्यस्सज्जवलान्वितः प्रमुदितश्श्रीघ्रं श्रियैर्निर्गतः ॥ २२ ॥ यस्यार्वीं
 विजयप्रयाणसमये गम्भीरभेरीभवद्भाङ्गारोद्भवसंभ्रमव्यतिकरव्याज्जम्भ
 णोद्देगतः । भ्रश्यन्त्यभ्रचयाञ्चलन्त्यवनयो भ्राम्यन्त्यमी भूधराः कूर्मो
 भ्राम्यति मुह्यति द्विरशनः कुण्ठन्ति दिक्कुञ्जराः ॥ २३ ॥ कोशान-
 गेहेष्वञ्चमुन् पयि करितुरगान् वान्धवानर्द्धमार्गे दुर्गेष्वन्तः पुराणि
 प्रतिभयचकिता रुद्रदेवस्य भीत्या । यस्योद्देगभ्रमन्तः समरसमयसा

रम्भगम्भीरभेरीभाङ्गाराकीर्त्तकस्त्वर्ज्वरभरतरलाः प्रोज्झिताशाः क्षि
तोशाः ॥ २४ ॥ गत्वा जवात्तिचतुराणि पदाणि राजा शस्यस्य खण्डनमिव
प्रथमाज्जतिम्बा । भ्रूमङ्गवीक्षणविवर्द्धित कोपवर्षा यद्वर्द्धमाननगरीं
प्रथमं जुहाव ॥ २५ ॥ यस्याक्षिवीक्षणभयाच्चकितस्स भोमो दुर्यो
धनस्य नृपते रिब विङ्गलाङ्गः । स्वध्यातमाटवनितासहितस्समग्रलक्ष्मीं
विहाय वनमेव ययौ विलज्जः ॥ २६ ॥ तत् पृथतोनु च जगाम
ददाह राजचोडोदयस्य नगरीमगरीयसीतां । लङ्कामिवामरपुरी
सदृशीं मृगाक्षीश्रेणीविलासललितामिव चाञ्जनेयः ॥ २७ ॥ लुलाव
च वनं तस्य दुर्गमगर्गलविभ्रमं तडागमकरोत्तत्र पुरमध्येद्भुतं महत्
॥ २८ ॥ कण्डूरोदयचेलवर्षविलसत्क्षीराब्धिगर्भाद्भवत्पद्मैकाश्रय
रुद्रदेवन्तपतेः किं वर्ण्यते विक्रमः । क्षुद्रकात्र कुलान्वतिक्षयकृतः सर्व्वा
वनीश्रीभृतो रामस्येव कुठारखण्डितरिपुव्रातस्य पृथ्वीपतेः ॥ २९ ॥
रङ्गत्तुङ्गतुरङ्गपुङ्गवखुरक्षुप्तं जगन्मण्डलं ज्योत्स्नोत्सृज्य सदातपत्रनिकर
व्याप्तं नभोमण्डलं । पुण्ड्रनूत्करचारुचामरचयैर्दिङ्मण्डलं सम्भृतं दृष्ट्वा
सैन्यविनिर्गमं नरपतेः प्रादुद्रुवुः शत्रवः ॥ ३० ॥ काक्षीमण्डलविन्ध्यमध्य
निलया भोमादयः पार्थिवा यस्य श्रोत्रपथंगता अहरहश्श्रीरुद्रदेवस्य ते ।
दृष्ट्वैवानिमिषा वभूवुरमरोवर्गस्य मर्त्याश्चिरं प्रत्यावृत्य तमेव रुद्रन्तपतिं
प्राप्ताश्शूरण्यार्थिनः ॥ ३१ ॥ रुद्रं स्तौमि नरेश्वरं वज्रशतानेकश्रियो
भाजनं कृत्वा यस्य कदापि चेतसि मदाशङ्का न संक्रामते । चारुश्री
पुरुषोत्तमं कलकलैः कृत्वा श्रियोभाजनं बीचीनां कुरुतेऽधुनापि वसुधा
मुज्जागरां सागरः ॥ ३२ ॥ न्यग्भूतीकृत राजहंसनिकरः पद्मोद्भवैकाश्र
यश्श्रीरुद्रश्चतुराननो बुधवरानन्दैकहेतुर्भृशं । नानाशास्त्रविचारलैक
चतुरो ब्राह्मीविलासाश्रयः कल्पात्क्षिप्तगतिः क्षिताविह्वलानन्दः स्वयं
पार्थिवः ॥ ३३ ॥ सत्यासक्तमना निरस्तनरकल्लेशश्च लक्ष्म्याश्रयः पृथ्वी
भृद्भुजगेन्द्रभोगनिलयश्शुश्रुह्निजेन्द्रप्रियः । दुष्टारिष्टविमर्दनस्सुमनसामभ्य
र्थितार्थप्रदो गोत्रप्रोद्धरणस्सुदर्शनकरो रुद्रस्स्वयं केशवः ॥ ३४ ॥
असम समरसङ्गात्तुङ्गमातङ्गकुम्भस्थलविदलितमुक्ताहारभाराभिरामः ।

भवभयभरभङ्क्ताभामिनीभचनेत्रोत्पलदक्षभवभूषःशोभते रुद्रदेवः॥३५॥
 अस्मिन् प्रशासति महीं भुवि रुद्रदेवे राजाभिधाश्रिणि नैव नरोत्तमेषु
 ईशत्वमिन्दुतिलके न घनाकुलेषु तेजस्वितादिनकरे नच शाचवेषु ॥ ३६ ॥
 केशग्रहसुरतसंगहसंभमेषुदंडग्रहो यतिषु नैव जनेत् करेषु । शास्त्रे
 विवादकथनं व्यवहारके न नक्वापि दुष्टमथनं मथनन्वरण्यां ॥ ३७ ॥
 दानं दैन्यपराभवावधि रिपुक्केदावधिर्विक्रमश्चातुर्थं चतुराननावधि
 गुणग्रामस्त्वसंख्यावधिः ॥ तेजोभास्करतापनावधि यशोराशिकु रुद्रस्य
 यत् त्रैलोक्याक्रमणावधिर्निरवधिर्धर्ममतिः शोभते ॥ ३८ ॥ प्राप्ताशोपि
 महत्तरोपि महतामेकाश्रयोपि श्रियो जन्मस्थानमपि प्रसन्नहृदपि त्वं
 रत्नधामापि सन् पीतः कुम्भसमुद्भवेन जलधे क्षारः समुद्रोः यतो
 नैवं रुद्रनरेश्वरोयममुनास्पृष्टां वृथा माकृथाः ॥ ३९ ॥ औदार्यं
 सुरसाखिन शिखरिणस्त्वर्णाकृतैर्गौरवं धैर्यंदाश्रये बलंपुरभिदो
 गाम्भीर्यममो निधेः । सौन्दर्यं मकरध्वजात् सुरगुरोर्विद्यारतिं
 कौतुकादादा याज समुद्भवेनरचितश्रीरुद्रदेवो ध्रुवं ॥ ४० ॥
 स्फायत्कैववतीन्दु रम्बुजपतिस्यष्टाम्बुज त्यम्बरं लोलंनीलसरोजति
 स्फुटयशो दुग्धाम्बुधौ संप्रति । ज्योतीर्घिसफुट बुद्बुदन्ति
 हरितः कूलन्ति लोकास्त्रय श्चक्षुर्दीचिचयन्ति यस्य जयति
 श्रीरुद्रदेवोध्रुवं ॥ ४१ ॥ पादन्यासशिखाशिशांसि समरे कृतानि
 खड्गेन यक्त्रूणां पतितानि मांसविलसत्पङ्कथे शङ्केह्यहं । रक्त खोतसि
 रुद्रदेवजयिनो नृत्यत्कबन्धे तदा ह्यायन्या विजयश्रियश्च सविधं
 कीर्त्तिः प्रयान्यादिशः ॥ ४२ ॥ तस्यास्तेऽनुमकोण्डनामनगरी श्रीराज-
 धानीवयायत्रोद्यत्सदखण्डखण्डपरशुव्यान्त्रम्भोजञ्चभिता । कन्दर्पस्य
 पुरीव सा रतिमती शृङ्गारभावान्विता माहेन्नीव च जिष्णु
 विष्णुसहिता रम्भाविलासोर्जिता ॥ ४३ ॥ यत्रस्त्रियो मकरकेतनराज
 धान्य आनीलनीरजपलाशदृशःकृशाङ्गः । त्रैलोक्यसुन्दरदृशां तिल
 कायमाना आपीनतुङ्गकुचकुम्भभरालसाङ्गः ॥ ४४ ॥ यत्र द्विजेन्द्रभवनेषु
 निवार्यमाणाः कीराः पठन्ति पटवो वटुभिः समेताः । सर्व्वाङ्गसङ्गत
 समस्तविचारचारुचारित्रचर्चित पदक्रमयुक्तवेदान् ॥ ४५ ॥ वेश्यागृहे

घु सुरतोत्सवजातचेष्टा शब्दानुकारिशुकशावकलोहशब्दाः । सर्वा
 दिशो मुखयन्ति दिवा विटानां कन्दर्पदर्पतरलार्णवपूर्णचन्द्राः ॥ ४६ ॥
 नातिक्रामति वैष्णवं पदमिति द्यां गौरिति क्षामिमां पादैस्त्यज्यति
 नो तुरङ्गमचयश्रीरुद्रदेवस्य यः । सर्वाशाः परिपूरयन्विजयते नृत्येन
 सम्भीषयच्छत्रून् युद्धमहीतले प्रतिदिनं विद्रावयन्मारयन् ॥ ४७ ॥
 अतिरमणशरीरा ये च नोचस्वराद्यास्तकलतुरगशास्त्रोद्भासिसङ्गच्छ
 णाद्याः । जवभरभरिताङ्गास्तत्त्वसम्पन्नगात्रा अतिचिरतरजीवाः पञ्च
 धारास्तुरङ्गाः ॥ ४८ ॥ राज्यं प्राच्यां लवणजलधेस्तोरपर्यन्तमस्य श्रीशैला
 न्तं प्रचरति सदा दक्षिणस्यां समग्रं । प्रातीच्यां वाकटकनिकटस्था
 यिनी राजलक्ष्मीं कौवेर्याशातटविलसिता मात्यवन्तं प्रपेदे ॥ ४९ ॥
 अर्चनार्थमिह दत्तवान्महामहिचेतपरिणलामखेटकं । श्रीमहेश रवि
 सौरिणां स्थिरं रुद्रदेवद्वयधर्मतन्वतां ॥ ५० ॥ इदं शासनं राज्ञा
 रामाश्वरायेण लिखितं ॥

II.—The next abstract translation we shall present to our readers is of a very old copper grant, made by a rāja of the Gajjara race named PRASANGA rāja, grandson of SAMANTA DATTA, and which bears the date of the full moon of Kartika in the Sambat year 380—A. D. 323. The seal of copper has the grandfather's name.

This very ancient and curious grant is one of several communicated by Dr. A. BURNS from *Kaira* in *Gujrat*. Dr. BURNS gives the following account of the manner in which the *Tamba-patras* were found. "The Plates, of which I enclose a copy" (he subsequently sent also facsimiles) "were found in the town of *Kaira*, about ten years ago. The river *Watrua* runs close to the walls on the north-west side, and was the cause of the discovery by washing down the walls and earth. They had been handed about the country among the natives for translation, it being supposed they were connected with some deposit of treasure. At last they were brought to me by a *Fakir*, of whom I purchased them." Dr. BURNS has sent transcripts and facsimiles of four plates, all of the beginning of the fourth century. That we now give is No. 4, and not the most ancient ; but it was the first decyphered by Mr. JAS. PRINSEP, and transcribed by him in Devanāgarī. The original is in the character of the fourth line of the alphabet plates of this volume,

corresponding with that ascertained from inscriptions and coins to have been in use in *Gujrat* at the period of the date of these grants. Their antiquity is thus assured, but part of the singularity of this particular one consists in the style of the eulogium of the *rāja* and his ancestors who made the grant, every word of which has a double meaning. The grant is in Sanskrit prose, upon the model of the *Kadamvari* by BANA BHATTA, and has been explained and commented upon at length by the Pandit KAMALÁKÁNTA, who regards it as a wonderful composition. It is impossible to give this explanation in these pages, for the eulogistic part of the grant, being in this double-meaning style cannot be translated, the English language not admitting of the same amphibologies.

The play upon words commences from the first sentence, which plainly translated implies, "There was a person named SAMANTA DATTA, born with fortunate auspices in the royal race of Gajjara;" but these words admit also of translation: "There was a boundless ocean named Gajjara," and this original double meaning has led to the use of epithets and qualities for the *rāja*, which will hold equally, with different meanings, as applicable to the Gajjara ocean. After wearing out the ocean amphibology, serpents, elephants, and women are pressed into the service by the ingenious conveyancer, who drew this deed; and it is a pity that such a happy device for multiplying mystifying words cannot be more fully explained, for the benefit of the practitioners in Chancery lane, who might find their advantage in imitating it.

Our business however is with the matter of the grant, and the historical facts deducible from this very ancient record. Dismissing therefore the prefatory eulogy to SAMANTA DATTA of the Gajjara line, who will be admitted to be a *rāja* without such proof, the grant proceeds:

"His son was VIJAYA-BHATTA, whose other name was VITA *rāja*, who was beautiful like burnt gold," &c. &c.

Then follow his praises in the same florid amphibological style: The close is peculiar: "His personal beauty prevented not the maturity of his good dispositions, nor his youth the practice of strict morality, nor his wealth its generous distribution, nor his *trivarga* (that is his enjoyment of love, morality and wealth), the practice of austere devotion; his exercise of sovereignty prevented not his delighting to show mercy, nor his living in the Kali yog the possession of all virtue."

We come now to another historical fact. "His prosperous son named PRASANGA *rāja* DATTA, who covered the airy sphere with the canopy of his fame like water-lilies blown to fullness by the beams of the full moon," &c. &c. &c., "and who proved his possession of winning

grace, by bringing angry women to love him through the force of his bowing and sweet words," &c. &c., "announces to all possessors of estates in their own right, and to all managers of the royal lands, and to the village proprietors,—Be it known to all of you," (a conveyancer of the present day would write "Now know ye,") that we (the said rája PRASANGA RAJA DATTA) in the full moon of Kartik, out of respect for those who are versed in the four Vedas, and consecrated with (holy) water, have presented to A. B. (the names are not legible) inhabitants of *Girisha padraka* in the district of *Angkureswara*, and to B. C. the village named *Sirisha padrakanlash*, for worship of the five *Jagnas*, *Bali*, *Charu*, *Baiswadeva*, and *Agnihotra*, and for increase of the virtue and fame of our father, our mother, and ourself; that the said village with all the rich produce it affords, may be enjoyed by the said grantees, their sons, grandsons and posterity, as long as the sun, and moon, and the ocean, and the earth shall endure.

"After this, let future rájas of our race, or of any other race, that may desire to secure to themselves the eternal fame, beautiful as the moon-beam, which attaches to donors of lands, reflect that life and wealth are fickle as waves of the sea urged by a strong wind; while fame, earned by good deeds is durable without limit; and so let them respect this grant, and confirm the grantees in possession. He only, whose mind is blackened by the darkness of ignorance, will resume it, or be pleased at seeing others molest its possessors—reckless of the guilt of the five deadly sins, and of other heinous crimes, as described at length in the *Vêda Byasa*.

"He who grants lands, lives 60,000 years in heaven; but he who confiscates or resumes, or allows others to do so, is doomed to hell for a like period.

"The resumers of grants become as black serpents that dwell in holes in the Vindhya forest. The earth has been enjoyed by many kings, as the *Sagara* rája and others, and each in his turn has ruled as a despot lord of all. But what generous man will take again the grants made by rájas who have gone before him, and whose gifts are like wreaths of flowers once used, spreading the fragrance of a good name, and of the reputation for wealth and virtue*.

"By the order of the rája's own mouth this grant has been written by REWA, a servant well tried in peace and in war, in the full moon of Kartika of the Sambat year (of VIKRAMADITYA) 380."

* The correspondence of the terms in which this grant closes, with the latter part of the grant obtained by Mr. R. JENKINS in *Chattisgarh*, as given in vol. XV. of the *Asiatic Researches*, will not fail to strike the reader. The character of that grant seems to be of higher antiquity than was then assigned to it by Dr. WILSON.

- 1 खस्ति नान्दि प्रभूतविविधविमलगुणरत्नसंपदुद्भासितसकलदि
ङ्मुखे परिचाताशेषस्वपरमहामहीभृति सततमविलङ्घि
- 2 तावद्यौ स्त्रैर्यगांभीर्यलावण्यवति महासत्वतयातिदुरबगाहे गुर्जर
नृपतिवंश महेदधौ श्रीसहजन्मा कृष्णहृदयाहिता
- 3 स्पदः कौस्तुभमणिरिव विमलयशोदीधितिनिकरविनिहतकलि
तिमिरनिचयः सत्पक्षोवैनतेय इवाक्यशत्रुनागकुलसंतति
- 4 रुत्पतिलब्धदिनकरचरणकमलप्रणामप्रणीताशेषदुरितनिवहः सा-
मन्तदत्तः प्रतिदिनमपेक्षकं येनस्थितमचल
- 5 गुणनिकरकेसरिविराजितवपुष्पा विनिह्यतारिगजकुम्भविगलित
मुक्ताफलच्छलप्रकीर्णविमलयशोवितानेन रूपानुरू
- 6 पसत्वमुद्वहता केसरिकिशोरकेणोपरिच्छित्तिभृतां चातिमलिन
कलियुगतिमिरचन्द्रमसमनुदिवसमन्योन्यस्यर्द्धयेव ॥
- 7 ययुःकलासमूहादयो गुणा विक्रमानीतमदविलासालसगतयोराराति
गजघटाः प्रमदाञ्च यस्यचाविरत
- 8 दानप्रवाहप्रोणितात्यिर्मधुकरकुलस्य रुचिरकीर्त्यबला सहायस्य
सततमस्खलितपदप्रसरतः सदंशाहितशोभा
- 9 गौरवस्य भद्रमतंगजस्येवकरघातविनिहतक्षितिभृदुन्नततनूरूह
स्य रेवानिर्ज्वरसलिल प्रपातमधुरनिनदस्य
- 10 भगोदयाः समुन्नतपयोधराहितश्रियोदयिता इवमुदे विन्धनगोप
त्यकायश्चापमीयते शशिनिमोक्षत्ववैमल्यशोभाक
- 11 लाभिर्नक्तलङ्घनेन श्रीनिकेते शोभासमुदयाधः कृतकुलकण्टकतया
कमलाकरे न पङ्कजन्मतया । सत्वात्साहविक्रमैर्मे
- 12 गाधिराजे न क्रूराश्रयतया । लावण्यस्त्रैर्यगांभीर्यस्थित्यनुपालन
तया महेदधौ न व्यालाश्रयतया । सत्करुणस
- 13 मुन्नत विद्याधरावासतया हिमाचले न खड्गपरिवारतया । यस्यच
सद्भोगः शेषोरगस्येव विमल किरणमणिशताविष्कृत
- 14 गौरवस्सकधारणतया यस्य प्रकाश्यतेस्वकुलंशोलेन । प्रभुत्वमाज्ञया ।

- शस्त्रमराति प्रणिपातेन । कोपोनिग्रहेण ।
- 15 प्रसादः प्रदानैर्द्धर्म्मोदेवदिजातिगुरुजनसपर्ययेति । तस्यसूनुः
प्रतप्तरुचिरकनकावदातः कल्पतरुरिवाविरतम
- 16 तिरुचिरफलप्रदः सततमृतुगणस्येववसन्तसमयोवसन्तसमयस्येव
प्रविकसित निबिडचूततरुवनाभोगः सरस इव
- 17 कमलनिवहः कमलनिवहस्येव प्रबोधामहाविषधरस्येवमणिर्मणे
रिव स्वच्छतारभावो महोदधेरिवामृतकलसामृतक
- 18 लस्येवामरणदायित्वप्रभावः करिण इव मदः प्रमदाजनस्येव
विलासोविभवस्येव सत्यात्रविनियोगो धर्म
- 19 स्येव क्रतुः क्रतोरिव सदक्षिणकामः प्रेम्न इव सद्भावः शशिन इवा
मलकलासमूहो नियतमलङ्कारभूतः सकल
- 20 निष्ठाकराभिरूपवदनः शक्तीवदान्यः प्रबलरिपुबलानीकसमर
समवाप्तविजय श्रीः श्रीवीतरागापर नामा श्रीं जयभ
- 21 टःकलिमलरहितः प्रतिपक्ष भयाचरणार्थिन इव यमाश्रिताः
सविनयागुणाः स्फुरितविमल कीर्त्तिसौदामिनो नायकेनसकलजो
- 22 वलोकानन्दकारिणा कालवलाहकेनेवावन्धफलगर्जनात् प्रणयिना
मपनीतास्तृष्णासन्तापदोषाः यश्च शूरोपिसततं
- 23 यशोभिरपगततर्धोपिगुणार्जनाविच्छिन्नतर्धः सर्वप्रदान शीलो
पिपरयुबतिहृदयदानपराङ्मुखः पटुरपि प
- 24 रपरिवादाभिधान जडधीः यस्य बलंनविरोधि शीलस्य यौवनं
सदृत्तस्य विभवःप्रदानस्य त्रिवर्गः सेवापरस्य
- 25 प्रभुत्वं क्षान्तेः कलिकालो गुणनमितस्येतितस्यसूनुः सजलघनपटल
निर्गत रजनिकरकरावबोधित कुवलय
- 26 यशःप्रतानस्यगितनभोमण्डलोनेकसमर प्रकटप्रभुत्वागत निह
तशत्रु सामन्त कुलवधू प्रिय
- 27 रुदितच्छलोद्गीयमान विमलनिस्त्रिंश प्रतापो देवदिजाति गुरु
चरणकमल प्रणामनतशिरौ

- 28 मणि कोटिरुचिरदीधिति विराजित मुकुटोद्भासित शिरादीनाना
थातुराभ्यागतार्थिजनास्त्रिष्ट सूचित
- 29 विभवोमनोरथोपचीयमानत्रिविष्टपैकसहायधर्मसंचयः प्रणय
परिकुपित
- 30 मानिनीजनप्रणयपूर्वमधुरवचनप्रापितप्रसादप्रकाशीकृतविदग्ध
नागरक
- 31 स्वभावो विमलगुणकिरणपंजराहृतबज्जलकलितिमिरनिचयः सम-
धिगत तापसमहाशब्द' छन्दाः प्रशाङ्गरागः
- 32 कुशलीसर्वानेव राजा सामन्त भोगिकविषयप्रतिष्ठग्राममहत्
राधिकारिकादीन्समनुबोध
- 33 यत्तत्सुवोविदितमस्माभिरङ्गुरेश्वरविषयान्तर्गतशिरोषपत्रकंलघ
ग्रामः सोद्रङ्गः सोपरिकरः
- 34 सर्वदानसंग्राह्यः (सर्वदित्यविष्टिप्रातिभेदिका परिहीणाभूमिच्छि
द्रन्यायेनावाटभटप्रावेश्य) आचन्द्रार्कासर्व
- 35 क्षितिस्थितिसमकालीनः पुत्रपौत्रान्वयभोग्योजंबूसरोविनिगताङ्ग
रेखरविषयान्तर्गतगिरिशपत्रकवासिबद्धाच
- 36 वत्ससगोत्राश्वलायनसब्रह्मचारिब्राह्मणभट्टग्राव्यापक तथाभट्टिगण
विशाख अभिशर्म द्रोणकाश्यपस
- 37 गोत्रभट्टिदाम तथावत्र अध्वर्युवाजसनेयदौण्डीयसगोत्र कण्वस
ब्रह्मचारिब्राह्मण्यतापि शर्म द्वितापिशर्म
- 38 दत्तस्वामि भोगिस्वामि पित्रशर्म भट्टि द्रोण धूम्रायणसगोत्री
कर्काग्याप कक सुबुककौण्डिन्यसगोत्रवाटशर्म शल
- 39 घोष महादेव बाव माधरसगोत्रधरविशाख नन्दि रामिल द्वारती
सगोत्रधर्मधर छान्देग्यभरद्वाजसगात्रकौद्युम
- 40 सब्रह्मचारिब्राह्मणइन्द्रशर्मसूदित्यरवितादिशर्मइन्द्रशूर ईश्वर
धर दाम दि ईश्वरभरुकच्छविनिगतभैरज्जिका

- 41 निवासि अथर्वणचोलिसगोत्रपिप्पलादसब्रह्मचारिब्राह्मणभद्रवायु
शर्मद्रोणस्वामिरुद्रादित्य पूर्वस्वामिलभ्यगमतु
- 42 श्रवणब्राह्मणेभ्यश्चातुर्विद्यपरिकल्पनापूर्वबलिचरुवैश्वदेवाग्निहोत्र
पंचमहायजादिक्रियोत्सर्प्यार्णात्यमातापित्रोरात्मनश्च पु
- 43 ण्ययशोभिवृद्धये कार्तिक्यामुदकविसर्गेणविष्टयाअतोस्मदंशैरन्यै
र्वागामिभोगपतिभिः प्रबलपवनप्रेरितोदधिजलतरं
- 44 गचंचलंजीवनोपरमभावानुगतानसारान्विभवान्दीर्घकालस्थयशस
स्वगुणानाकलय्यसामान्यभोगभूप्रदानफलेशु
- 45 भिः शशिकरचिरं यशस्विरायचिचिषुभिरयमस्मद्वायोनुमन्तयः
पालयितव्यश्च यो वाज्ञाननतिमिरपटलावृतमति
- 46 राच्छिन्द्यादाद्विद्यमानकं वानुमोदेतसपंचमिर्महापातकैः सोपपा-
तकै संयुक्तः स्यात्उक्तञ्च भगवता वेदव्यासेन
- 47 व्यासेन ॥ षष्टिवर्षसहस्राणि स्वर्गेतिथति भूसिदः उच्छेता चानु
मन्ता च तान्येव नरकौ वसेत् ॥ विन्याटवीष्यतोयासु
- 48 शुष्ककोटरवासिनः कृष्णाद्वयो हि जायन्ते भूमिदायं हरन्ति ये ॥
बहुभिर्वसुधा दत्ता राजभिः सरादिभिः यस्य य
- 49 स्य यदाभूमिस्तस्य तस्य तदाफलं ॥ यानीह दत्तानि पुरा नरेन्द्रे
नानिधम्मात्ययशस्कराणि । निर्भुक्तमाल्यप्रतिमा
- 50 निभानि को नाम साधुः पुनराददीतेति ॥ संवत्तरशतत्रये शीघ्र
धिके कार्तिकशुक्लपञ्चदश्यां लिखितं सन्धिविग्रहाधिक
- 51 रणाधिकतरवेणस्वमुखाञ्जयेति । सं ॥ ॐ कार्तिकशुक्लेना दिन
करचरणार्चनवतस्य श्रीवीतरागसूनोः सहस्रोयं प्रशाद्वरागस्य ॥
सामन्तदत्तः
तस्यपुत्रः वीतरागापरनामा श्रीजयभटः
तस्यपुत्रः प्रशाद्वरागः ब्राह्मणेभ्यो भूमिंददौ

Note.—The marginal numbers mark the lines of the copper plates. We owe Dr. BURNS an apology for not transferring his copy, which is perfect, to a lithographed plate. In the following number we propose to give another of these grants in its original shape, that the character may bear its own testimony to their antiquity; but time, and the number of other plates has prevented the doing so with this specimen.

IX.—*Proceedings of the Asiatic Society.*

Wednesday Evening, the 14th November, 1838.

The Hon'ble Sir EDWARD RYAN, President, in the chair.

Before proceeding to the general business of the meeting, the President rose and stated, that he held in his hand a letter from the Secretary, Mr. JAMES PRINSEP, the substance of which must be a source of deep regret to every member of the Society, for every one must feel the loss the Society had suffered in the departure of its Secretary, Mr. JAMES PRINSEP. He assured the meeting, however, and he spoke on the authority of a conversation he had with Mr. PRINSEP, before his departure, that this gentleman's absence from India would be but for a short period, and that on his return he would be ready to take the same interest, and to display the same zeal and anxiety, which had so honorably distinguished his discharge of the important duties he had undertaken in connexion with the Society. The President said, that the objects of the Society, had under Mr. PRINSEP's able superintendence, been prosecuted with a vigour, which had added largely to its credit and reputation; and that the results produced in every department of science and literature, for which the Society was indebted chiefly to its Secretary's activity and varied powers, had sustained its character in a manner, rivalling the periods when it derived renown from the labours of a JONES, a COLEBROOKE, and a WILSON. The President took occasion to add, that, in the time of Mr. JAMES PRINSEP, and on his proposition, the name of the Society had been associated with a monthly periodical, established by the late Captain HERBERT, originally under the name of the *Gleanings in Science*. The work was afterwards extended and ably conducted by Mr. PRINSEP himself; and at his suggestion it was resolved in 1831, that so long as this periodical should be conducted by a Secretary of the Society, it should bear the title of "*Journal of the Asiatic Society*;" under that name, it had been since continued by Mr. PRINSEP with very distinguished success to the present day. The Society had no property in the *Journal*, and no right to prevent Mr. PRINSEP from separating it again from the Society, and conducting it on his own account; but he had no such intention. He (Sir E. RYAN) had ascertained that Mr. JAS. PRINSEP had made arrangements for its being continued to the end of the present year from materials in hand; and after that, he meant that *his* series should be closed; but he had no objection to the Society's continuing the periodical by the same name under other management as a concern quite independent.

Now he (the President) believed, that all the members of the Society would regret exceedingly that a periodical so established, and which had acquired such credit and consideration, should be discontinued. He trusted that it would be resumed by Mr. J. PRINSEP himself, when he returned to India; but in the mean time he should submit to the meeting the propriety of taking into consideration the possibility of making some arrangement to carry it on during Mr. PRINSEP's absence.

Having premised thus much, the President stated, that he should read to the meeting Mr. JAMES PRINSEP's letter, placing the situation of Secretary at their disposal: but as he had no doubt it would be the unanimous feeling of the meeting to desire to retain Mr. PRINSEP in official connexion with the Society, he should not consider this letter as an absolute resignation, but should propose a resolution, and submit arrangements founded upon it, which would enable Mr. PRINSEP to resume the office on his return to India.

The President then read the following letter:

To the Hon'ble Sir EDWARD RYAN, Kt., President of the Asiatic Society.

HON'BLE SIR,

Being compelled by ill-health to proceed to sea and eventually to Europe, I have taken my passage on board the *Herefordshire*, with the intention of being absent from the country for two, or perhaps three years. I am thus under the necessity of placing at the disposal of the Society the situation of its Secretary, which I have filled for five years.

It is with great reluctance and regret that I thus separate myself from a body, with whom I have been associated in labours of much interest and utility, whose favor has encouraged my zeal, and through whose credit and reputation in the world, I have obtained the means of making generally known my own humble efforts in the cause of science, and my not unsuccessful endeavours to explore the antiquities of the country, to whose service we are devoted.

But the disability of sickness is an accident, to which we are all liable, and from which there is no resource, but in temporary departure to a better climate. I am thus compelled to leave my incomplete labours to be perfected by others; and to relinquish the place I have held in the Society, that provision may be made for its competent discharge under the failure of my own power of longer rendering useful service.

1st November, 1838.

(Signed)

I have the honor to be, &c.

JAMES PRINSEP.

Proposed by the President, seconded by Mr. CURNIN, and unanimously resolved,—That the resignation of Mr. JAMES PRINSEP be not accepted; but the Society hope that he will return to resume the situation of Secretary, which he had filled so much to the credit of the Society for a period of five years.

Resolved,—That the President communicate to Mr. JAMES PRINSEP the desire of the Society, that he shall not consider himself as having vacated the situation of Secretary to the Society; and express the hope, that on his return to India he will resume the situation of Secretary.

That, during the absence of the Secretary, a temporary arrangement be made for conducting the Secretary's duties, the same to cease upon his return and resumption of the office.

That, during the temporary absence of Mr. JAMES PRINSEP, the Rev. Mr. MALAN, Dr. O'SHAUGHNESSY and Babu RAMCOMUL SEN be requested to act as joint Secretaries of the Asiatic Society.

That, for the purpose of carrying on the financial affairs of the Society, a committee be appointed, consisting of the President, the Secretaries, and Mr. W. P. GRANT.

That the Secretaries of the Society be requested to report, whether at the expiration of the current year they are willing to carry on a new series of the *Journal of the Asiatic Society*, and submit to the next meeting a plan for that purpose.

Mr. JAMES MIDDLETON, proposed at the last meeting, was balloted for and duly elected a member of the Society.

Read a letter from Lieut. J. DUNCAN, acknowledging his election as an ordinary member of the Society.

Ditto from Monsieur JAUBERT, President of the Geographical Society of Paris, acknowledging his election as an honorary member.

Library.

Read a letter from J. BELL, Esq., Secretary to the Agricultural and Horticultural Society, forwarding, for presentation on behalf of the Society, three pamphlets, Nos. 1, 2, and 3 on Cochineal.

The following books were presented :

Notes on the Agricultural and Rural Economy of the Valley of Nipal, by Dr. A. CAMPBELL of Nipal—by the Author, through the Hon'ble Col. W. MORISON.
Barometrical and Thermometrical Observations—ditto by ditto.

Hourly observations during the last summer at ditto—by ditto.

Memoires sur Quelques Coquilles Fluviales at terrestres D'Amerique per Stefano Moricard, Ceretrail des Memoires de la Societé de Physique et d'Histoire Naturelle de Geneve, 1833-34—by the Author.

The Oriental Christian Spectator, October, 1838—by Rev. J. WILSON BENSLEY, Madras Journal of Science, No. 20—by the Madras Literary Society.

The following from the Booksellers :

Lardner's Cabinet Cyclopaedia (Biography), Eminent Foreign Statesmen, vol. 5.

Ditto ditto (History), Greece, vol. 5.

TORRENS'S Translation of the book entitled The One Thousand Nights and One Night, vol. I., five copies—subscribed by the Society.

Literary and Antiquities.

Read a letter from Mr. Secretary PRINSEP, forwarding copy of a Report on the Weights, Measures, and Coins of Cábul and Bukhâra, compiled by NOWROJEE FURDOONJEE.

[NOTE.—This Report is printed in the present number of the Journal.]

Lieut. G. C. HELLERIGS, presenting his translation of certain chapters of the *Akhlaqi Jallilee*, from the Persian into Hindi and English.

Read a letter from Mr. W. T. LEWIS, dated Penang, 12th Sept. 1838, forwarding a piece of the metal of which the bell at Malacca is composed, and stated, from what he had learnt from the artists, that the metal in question was supposed to contain a large portion of gold.

Drawings of the Siamese Emperor were presented by Mr. J. LOW.

Three copper coins of Ceylon were presented by Mr. LAYARD.

Physical.

Read a letter from Mr. Secretary PRINSEP, forwarding a list of the ornithological specimens collected by Dr. HELPER during his sojourn in the Tenasserim Provinces.

A letter from Capt. G. T. GRAHAM, offering to take charge of such specimens of natural history as the Society may desire to send to his Highness the Pasha of Egypt.

Resolved,—That the thanks of the Society be presented to Capt. GRAHAM for his kind offer, and that he be informed that the Society has nothing at present worthy of being presented to his Highness the Pasha.

Meteorological Register, kept at the Assay Office, Calcutta, for the Month of October, 1838.

Forenoon, 10 A. M.

Afternoon 4 P. M.

Day of the Month.	Atmospheric Pressure.			Temperature.			Hygrometry.			Aqueous tension.			Weather.			Atmospheric Pressure.			Temperature.			Hygrometry.			Aqueous tension.			Weather.			Aspect of Sky.
	Old Stand. Barometer.	Height at 32° Fah.	River wa-ter.	Well wa-ter.	Of air.	Dew-point.	Wet-bulb Depression.	Differential Therm.	Hair Hygrometer.	By Dew-point.	By Wet-bulb.	By Hair Hygrometer.	Rain on ground.	Direc-tion.	Wind.	Force.	Old Stand. Barometer.	Height at 32° Fah.	Of Air.	Dew-point.	Wet-bulb Depression.	Differential Therm.	Hair Hygrometer.	By Dew-point.	By Wet-bulb.	By Hair Hygrometer.	Rain on ground.	Direc-tion.	Wind.	Force.	
1	29,853	29,804	88,9	83,0	88,8	74,3	9,9	10,2		64	62			N. W.	2	clear.	29,738	29,684	93,4	72,3	14,1	14,1	76	52	50	52		N. W.	2	clear.	
2	854	807	88,8	83,8	88,8	73,8	9,0	10,2		62	65			N. w.	1	do.	740	688	93,2	71,5	13,9	13,6	72	52	45	46		N. W.	2	do.	
3	850	803	88,3	83,3	88,3	74,0	9,3	10,4		64	63			S.	1	do.	757	697	92,1	71,5	14,9	15,6	73	52	47	48		N. W.	2	do.	
4	873	819	87,9	82,9	87,9	74,0	7,1	7,8		65	71			S. E.	2	cir. cum. hy.	770	711	92,1	73,0	11,6	12,5	79	61	60	61		S. W.	2	cir. above f.	
5	896	842	88,2	84,3	87,9	76,5	7,2	8,6		70	71			S. E.	1	do.	775	717	91,5	73,0	11,6	12,5	81	59	57	57		S. S.	3	cir. above f.	
6	912	867	84,5	71,7	84,5	71,7	9,1	9,3		64	67			S. E.	1	do.	823	763	85,1	74,3	7,3	8,8	86	71	70	70		S. S.	3	s. d. at 3 30.	
7	832	831	88,1	82,8	86,1	73,6	6,6	7,5		68	72			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
8	891	847	86,1	80,7	86,1	73,6	7,2	8,0		68	67			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
9	880	844	84,3	78,6	84,3	75,4	6,1	7,2		71	75			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
10	860	800	84,3	78,6	84,3	75,4	6,1	7,2		71	75			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
11	898	869	85,7	74,0	85,7	74,0	6,5	8,4		64	64			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
12	899	864	86,3	82,3	85,9	73,6	7,8	8,8		68	72			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
13	880	864	84,3	78,6	84,3	75,4	6,1	7,2		71	75			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
14	898	869	85,7	74,0	85,7	74,0	6,5	8,4		64	64			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
15	899	864	86,3	82,3	85,9	73,6	7,8	8,8		68	72			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
16	880	864	84,3	78,6	84,3	75,4	6,1	7,2		71	75			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
17	898	869	85,7	74,0	85,7	74,0	6,5	8,4		64	64			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
18	846	810	82,5	70,5	82,5	70,5	3,5	4,5		69	71			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
19	825	802	77,8	70,5	77,8	70,5	3,0	3,6		77	84			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
20	760	765	76,5	69,5	76,5	69,5	4,0	4,5		80	86			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
21	862	884	84,3	78,6	84,3	75,4	6,1	7,2		71	75			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
22	938	913	80,7	79,2	80,7	72,6	5,8	6,7		80	80			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
23	939	931	80,7	79,2	80,7	72,6	5,8	6,7		80	80			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
24	934	931	80,7	79,2	80,7	72,6	5,8	6,7		80	80			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
25	926	899	80,7	79,2	80,7	72,6	5,8	6,7		80	80			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
26	911	878	81,7	75,6	81,7	75,6	7,5	8,3		85	85			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
27	920	908	82,1	75,6	82,1	75,6	6,5	7,5		86	86			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
28	965	938	82,7	80,8	82,7	80,8	9,1	10,0		81	71			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
29	959	933	82,7	80,8	82,7	80,8	9,1	10,0		81	71			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
30	942	911	82,7	80,8	82,7	80,8	9,1	10,0		81	71			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
31	942	911	82,7	80,8	82,7	80,8	9,1	10,0		81	71			S. E.	1	do.	827	770	84,1	75,5	5,8	6,4	91	76	75	80		S. S.	3	cir. above f.	
Mean.	29,879	29,847	84,0	81,2	83,6	72,4	7,2	8,2		68	70			S. E.	1	do.	29,793	29,766	86,4	71,5	14,0	13,3	10,5	81	63	59	61		S. E.	1	do.

